



# Too Little, Too Late?

## How Central Bankers' Beliefs Influence What They Do

Daniel F. Schulz

Thesis submitted for assessment with a view to  
obtaining the degree of Doctor of Political and Social Sciences  
of the European University Institute

Florence, 06 June 2017



European University Institute  
**Department of Political and Social Sciences**

Too Little, Too Late?

How Central Bankers' Beliefs Influence What They Do

Daniel F. Schulz

Thesis submitted for assessment with a view to  
obtaining the degree of Doctor of Political and Social Sciences  
of the European University Institute

**Examining Board**

Professor Sven Steinmo, European University Institute (Supervisor)

Professor Mark Blyth, Brown University

Professor Philipp Genschel, European University Institute

Professor Leonard Seabrooke, Copenhagen Business School

© Daniel F. Schulz, 2017

No part of this thesis may be copied, reproduced or transmitted without prior  
permission of the author



**Researcher declaration to accompany the submission of written work**  
**Department of Political and Social Sciences - Doctoral Programme**

I Daniel Frederik Schulz certify that I am the author of the work "Too Little, Too Late? How Central Bankers' Beliefs Influence What They Do" I have presented for examination for the Ph.D. at the European University Institute. I also certify that this is solely my own original work, other than where I have clearly indicated, in this declaration and in the thesis, that it is the work of others.

I warrant that I have obtained all the permissions required for using any material from other copyrighted publications.

I certify that this work complies with the Code of Ethics in Academic Research issued by the European University Institute (IUE 332/2/10 (CA 297).

The copyright of this work rests with its author. Quotation from it is permitted, provided that full acknowledgement is made. This work may not be reproduced without my prior written consent. This authorisation does not, to the best of my knowledge, infringe the rights of any third party.

I declare that this work consists of 87,095 words.

**Statement of language correction:**

This thesis has been corrected for linguistic and stylistic errors. I certify that I have checked and approved all language corrections, and that these have not affected the content of this work.

Signature and date:

A handwritten signature in blue ink, appearing to read 'D. Schulz', with a stylized flourish at the end.

3 April 2017



## Chapter overview:

1. INTRODUCTION.....	1
2. HOW DID WE GET HERE? THE ROAD TO EMU AND THE FIRST DECADE .....	21
3. POLICYMAKING INSIDE THE ECB: WHO GOVERNS?.....	35
4. WHAT <i>CAN</i> CENTRAL BANKERS DO? CONTROVERSIES IN MONETARY THOUGHT .....	55
5. WHAT DO CENTRAL BANKERS <i>THINK</i> THEY CAN DO? ECONOMIC BELIEFS AND HOW THEY MATTER FOR POLICY .....	95
6. WHAT CENTRAL BANKERS DID AND DIDN'T DO: KEY MONETARY POLICY DECISIONS, 2007-16 .....	123
7. HOW THE WORLD WORKS: CLASHING IDEAS AND THEIR POLITICAL SIGNIFICANCE.....	161
BIBLIOGRAPHY .....	175
APPENDIX.....	I

# Detailed table of contents

## PREFACE AND ACKNOWLEDGEMENTS

1.	INTRODUCTION .....	1
1.1	<i>The puzzling persistence of ECB conservatism.....</i>	2
1.2	<i>The conventional explanation: Germany!.....</i>	7
1.3	<i>Institutions: The incomplete contract of Maastricht .....</i>	8
1.4	<i>National interests in a world of radical uncertainty .....</i>	10
1.5	<i>The argument in brief: taking policymakers' ideas seriously .....</i>	13
1.6	<i>Gaps in the literature .....</i>	15
1.7	<i>Plan of the dissertation.....</i>	18
2.	HOW DID WE GET HERE?	
	THE ROAD TO EMU AND THE FIRST DECADE .....	21
2.1	<i>The Road to Maastricht.....</i>	21
2.2	<i>Who joins the club? .....</i>	26
2.3	<i>The ECB's birth and carefree childhood (1999-2007).....</i>	30
3.	POLICYMAKING INSIDE THE ECB:	
	WHO GOVERNS? .....	35
3.1	<i>Formal and informal decision rules .....</i>	35
3.1.1	Governing Council Decisions: one head, one vote?.....	36
3.1.2	The agenda-setting power of the Executive Board.....	39
3.1.3	The role of staff .....	41
3.1.4	Channels of influence for national central banks .....	43
3.2	<i>The long legacy of Otmar Issing .....</i>	46
3.3	<i>ECB Presidents and their styles of leadership .....</i>	48
4.	WHAT CAN CENTRAL BANKERS DO?	
	CONTROVERSIES IN MONETARY THOUGHT .....	55
4.1	<i>What is money, who creates it – and how? .....</i>	56
4.1.1	Who 'makes' monetary policy?.....	58
4.1.2	Central bankers' instruments.....	60
4.1.3	The transmission mechanism .....	61
4.1.4	Rational expectations and money illusion.....	63
4.2	<i>What monetary policy can and cannot do: views on central banks' objectives .....</i>	66
4.2.1	Controlling inflation .....	67
4.2.2	Supporting growth and employment .....	73
4.2.3	Providing financial stability: to lean or not to lean?.....	77
4.3	<i>Monetary policy in hard times: experimenting in uncharted territory.....</i>	83
4.4	<i>Conceptualizing monetary paradigms: orthodoxy and revisionism in flux.....</i>	88



5.	WHAT DO CENTRAL BANKERS <i>THINK</i> THEY CAN DO?	
	ECONOMIC BELIEFS AND HOW THEY MATTER FOR POLICY .....	95
5.1	<i>Central bankers' economic beliefs: why and how to measure them</i> .....	96
5.1.1	A survey-based measure of economic beliefs .....	98
5.1.2	Institutions covered and their response rates.....	102
5.2	<i>Central bankers' beliefs: do they differ at all?</i> .....	106
5.3	<i>What role for paradigms?</i> .....	110
5.4	<i>Do beliefs matter for policy preferences?</i> .....	113
5.5	<i>Beliefs and preferences across institutions: is the ECB really a special case?</i> .....	117
5.6	<i> Policymakers matter!</i> .....	120
6.	WHAT CENTRAL BANKERS DID AND DIDN'T DO:	
	KEY MONETARY POLICY DECISIONS, 2007-16.....	123
6.1	<i>When disaster strikes: the response to the financial crisis (2007-09)</i> .....	124
6.2	<i> Worlds apart? Europe's special path 2010-2012</i> .....	135
6.3	<i> Too little, too late? The ECB's catch-up policies 2012-2016</i> .....	143
6.3.1	'Whatever it takes': economic theory in court .....	144
6.3.2	A long time coming: European QE .....	146
6.4	<i> Not just what, but when: sticky ideas and the importance of timing</i> .....	156
7.	HOW THE WORLD WORKS:	
	CLASHING IDEAS AND THEIR POLITICAL SIGNIFICANCE.....	161
	BIBLIOGRAPHY .....	175
	APPENDIX .....	I



## PREFACE AND ACKNOWLEDGEMENTS

Luckily, we never really know what another person thinks.

At a time when Orwell's 1984 is suddenly back on the bestsellers lists because of the way it speaks to the political climate of 2017, we may find some comfort in that thought. After all, there is still no Thought Police. *Die Gedanken sind frei!*

Sometimes, however, we still wish we could read someone's mind.

This is particularly true if that someone has the power to make decisions with enormous consequences for our lives. Such as a central banker! Over the past few decades, central bankers across the developed world gained astonishing degrees of independence from the political process – from us – and then, as the world suffered the worst economic crisis for generations, increased their powers even further. They became the new 'masters of the universe'.

To be fair, central bankers often did not seek these powers themselves. Many were uncomfortable with the responsibility that came with them – and what it might do to their treasured independence if they failed to live up to this enormous responsibility. But for now this is the world we live in; one in which independent technocrats make far-reaching decisions autonomously. In order to better understand why these powerful individuals do what they do, wouldn't it be nice to know a bit more about how they think?

It was with these thoughts in mind that I started the doctoral program at the European University Institute (EUI) in late 2013. More specifically, I intended to survey central bankers on their economic thinking in a way that would allow me to quantify their beliefs. During interviews for spots in doctoral programs I almost always received more or less the same response from the professors in those juries. It was a neat idea, yes, but it surely wasn't going to happen. If I tried to approach central bankers with my survey, they would most likely never respond. And if they did, they would probably all say the same thing. So I was under no illusion that this would be quite a journey.

I could have never embarked on this journey, let alone finished it, without the kind support of a large number of people. Among the many, two certainly stand out.

First is my supervisor, Sven Steinmo, who encouraged me to try what everybody told me wouldn't work – while making sure I had fallback options in case it turned out everybody was right. He understood that it was really this idea of quantifying central bankers' beliefs which motivated me to pursue this particular project and told me to go ahead with it even though this research strategy seemed likely to fail. Thankfully, Sven also urged me to spend much more time than I had originally planned interviewing central bankers in person and reading their speeches.

Both has helped me a great deal in understanding the inner workings of the European System of Central Banks and the world of central banking more generally, and much of what fills the following pages stems from this experience. However, this better knowledge of European monetary policymaking in practice – plus the contacts to central bank economists my interviews facilitated – were also crucial when it came to interpreting the survey data, once it had turned out that central bank economists were more open to be surveyed on their economic beliefs than most skeptical academics had imagined, myself included.

The survey idea would most likely have ended in failure if not for the help of Richard Portes. I was starting to plan my empirical strategy in earnest at the beginning of my second year at the EUI, when it was announced that Richard Portes would become the inaugural holder of the Tommaso Padoa-Schioppa Chair in European Economic and Monetary Integration at the EUI's Robert Schuman Centre for Advanced Studies. I knew having the support of someone like Portes, with his glowing name in central banking circles would lend my survey much needed credibility. The only problem? Based out of London, and with no ties to my department, Richard was under no obligation whatsoever to help.

Yet, he did much more than simply helping me. Not only did he work with me to improve my survey questionnaire, and invited me to join his Research Group; he was so kind to write a Letter of Support I could use to address potential survey respondents. There can be no doubt that this letter was absolutely instrumental in prompting many central bank economists to participate in my study. One of my interviewees at the German Bundesbank later estimated that probably half of my 422 respondents would not have participated in the study without Richard's letter – I believe this number to be even higher. In short: Richard did not need to help me, but he did, and this dissertation would not exist in its current form without him. For this I shall be eternally grateful!

Finally, I also owe thanks to Ben Rosamond for the great course on '*Ideas in Political Analysis and International Relations*' he taught at the University of Copenhagen in the spring of 2012. This was not only the best university course I ever attended (by a margin), it also introduced me to the key ingredients of what would later become this dissertation: Mark Blyth's *Great Transformations* and Kathleen McNamara's *Currency of Ideas*. Through the discussion of those two great books, I learned a great deal about Knightian Uncertainty and the role of ideas in central banking. Finally, we also discussed an article by Colin Hay and Nicola Jo-Anne Smith (2010) which made a strong case for surveying policymakers. Unknowingly, Ben Rosamond gave me the perfect script to follow throughout my time in Florence.

During those almost four years I have also benefited greatly from a number of professors at the Department for Political and Social Sciences, who always kept their doors open and were happy to discuss my research plans with me. This goes for Pepper Cul-

pepper in particular, whose skepticism and tough questions did a lot to motivate me. But I also received great advice from Adrienne Héritier, Diego Gambetta, Fabrizio Bernardi, Hanspeter Kriesi, Laszlo Bruszt, and Philipp Genschel.

The same goes for a number of people I had the honor to meet at panels of several conferences, most importantly the *ECPR Joint Sessions* in Pisa 2016, a *Central Banking Workshop at the University of British Columbia* and the *EUSA Biennial Conference* in Miami 2017. On those occasions I received very helpful comments from, Michele Chang, Juliet Johnson, David Howarth, Eleni Tsingou, Cheryl Schonhardt-Bailey, Benjamin Braun, Sebastian Diessner, Alessandro Giovannini, Sven Hilgers, Manolis Kalaitzake, Sebastian Heidebrecht, Arie Krampf, Hjalte Lokdam, Andrew Baker, and others.

One of the great perks of doing a PhD at the EUI is the seemingly unstoppable flow of great scholars who come to visit San Domenico on a regular basis. A preferred choice for sabbaticals, EUI researchers are blessed to meet very busy academics when they, for once, have some time on their hands. Over the years, this has allowed me to discuss my work with Alan Jacobs, Andrew Bennett, Cornel Ban, David Coen, Manuela Moschella, Patrick Leblond, and Peter Dietsch, who were so kind to provide me with ideas on how to improve this thesis. This has helped me immensely, especially in the early stages of the PhD.

At the later stages I benefited greatly from the help of Lukas Haffert, Björn Bremer, Niels Selling, and Pierre Schlosser – my kind and frighteningly intelligent friends and colleagues, who carefully read earlier drafts of this thesis and provided me with a long list of suggestions as to how to improve it. I have tried my best to honor the time you spent with my thesis by taking on your comments the best way I could!

Other friends in Florence did not suffer so much from reading my stuff but from my inability to shut up about central bankers. I have more than once bored the hell out of Mikkel Munthe Jensen, Katharina Wolf, Rutger Birnie, Benedikt Dengler, Agnieszka Smolenska, Martina Selmi, Martijn van den Brink, and Mariana Spratley. Thank you for listening patiently – and for still considering me your friend (that's what I hope, at least).

Then there are a number of people I would like to thank but cannot. Those are the economists who work inside the Eurosystem institutions and devoted considerable time to a young PhD student at a time when they could not have been busier. Thanks to my hours and hours of discussions with them, I have learned more about Europe and central banking than I ever thought I would – and it almost pains me to honor their anonymity by not thanking them individually for their time and kindness.

Towards the end of this project, Kurt Hübner was so kind to provide me with the perfect environment to finish writing this dissertation at the University of British Columbia's Institute for European Studies in Vancouver. In early 2017, Kurt also organized a

workshop on the ‘brave new world of central banking’ with me – a perfect opportunity for me to test my arguments before submitting this thesis.

Finally, I thank my wonderful editor and partner, Francesca Bianco. You not only made my writing a lot better, but pretty much everything else, too.

## 1. INTRODUCTION

*“There was a time, not too long ago, when central banking was considered to be a rather boring and unexciting occupation. [...] I can confidently say that this time has passed.”*

**Mario Draghi**, 15 Apr 2013

If the tragic and seemingly endless Eurozone crisis knows one ‘winner’, it certainly is the European Central Bank (ECB). Since the crisis began, the ECB has greatly increased its powers and has eventually become the dominant actor in European economic governance. In the eyes of many, it is the only institution left with the capability to act. Compared to other European institutions, which are seemingly paralyzed by divergent national interests and their intergovernmental decision-making mode, the highly autonomous ECB has proven that it can make and implement policies quickly. However, the ECB has often not actively pursued new powers, due to concerns about its independence. It has merely accepted them, often rather reluctantly. Nevertheless, it has ended up with ever more responsibilities, facing ever higher expectations.

Still, the ECB remains a poorly understood institution. For all its powers, we know remarkably little about how – and why – it makes the decisions it does. Shrouded in mystery, the world’s most independent central bank is, at the same time, the least transparent. Deciding behind closed doors and refraining from issuing detailed minutes or voting records of its meetings, the ECB often leaves observers puzzled. Analysts and the financial press are left with no other option than to engage in guesswork when trying to understand why the ECB does what it does.

This lacuna obviously constrains our understanding of the ECB’s relatively conservative behavior during the crisis.<sup>1</sup> While central banks around the world were “reversing the orthodoxy of the past several decades” (Davies 2013) and tried to counter the ‘Great Recession’ by increasing the money supply through a variety of mechanisms, the ECB took a much more cautious approach. Despite record-high unemployment and low inflation rates, it has long been hesitant to adopt the expansionary policies its peers pursued. Or, to state it more bluntly: while others reacted to the crisis by fighting unemployment, the ECB continued to fight inflation. Why did the ECB choose not to do more? Given the criticism this received, why did the ECB not do more to support the Eurozone economy?

Institutionalist explanations correctly point out that other central banks such as the Federal Reserve (Fed) or the Bank of England (BoE) follow different mandates which arguably render it easier to pursue expansionist policies. This cannot explain, however, why the ECB did not choose to control inflation in a more growth-friendly way *in line with its mandate*. For most of the pre-crisis years, the ECB missed its inflation target

---

<sup>1</sup> Following Rogoff (1985), I understand monetary conservatism as policies which focus on inflation-fighting more than is suggested by societal preferences.

by undershooting, rather than overshooting it. At the same time, sky-rocketing unemployment numbers left the ECB vulnerable to criticism from many sides. Why it chose to go down this much-criticized path cannot be explained with the ECB's mandate alone.

Importantly, the ECB has recently undergone a remarkable policy shift while following exactly the same mandate. After years of caution, the ECB under Mario Draghi has accepted its function as a lender of last resort to governments (by promising to do 'whatever it takes' to keep them in the currency union) and, finally, adopted the quantitative easing (QE) policies the Fed had introduced a full seven years earlier. This underscores how the Maastricht Treaty allows for very different interpretations of the ECB's role, which makes the act of interpreting the mandate a crucial determinant of policy. In more theoretical terms, *this lack of strict institutional constraints opens the door for agency*.

Interest-based approaches, on the other hand, expect monetary policy choices to reflect the interests and relative power of EMU member states. Despite the ECB's praised independence, many perceive its policies as disproportionately reflecting the interests of the Eurozone's biggest economies; most notably France and Germany. Such accounts, however, have problems explaining why German officials were overruled in the ECB's most momentous decisions, while they remained in the driving seat at other times. After all, the ECB follows a decision rule of 'one head, one vote' and the German Bundesbank thus enjoys officially just as much voting power as Malta or Cyprus. Why, then, does the majority of national governors follow Germany's stance most of the time, if its economies actually need different policies? If ECB officials voted on policies according to their domestic needs, we would have certainly seen much more accommodative policies than the ones the ECB actually pursued.

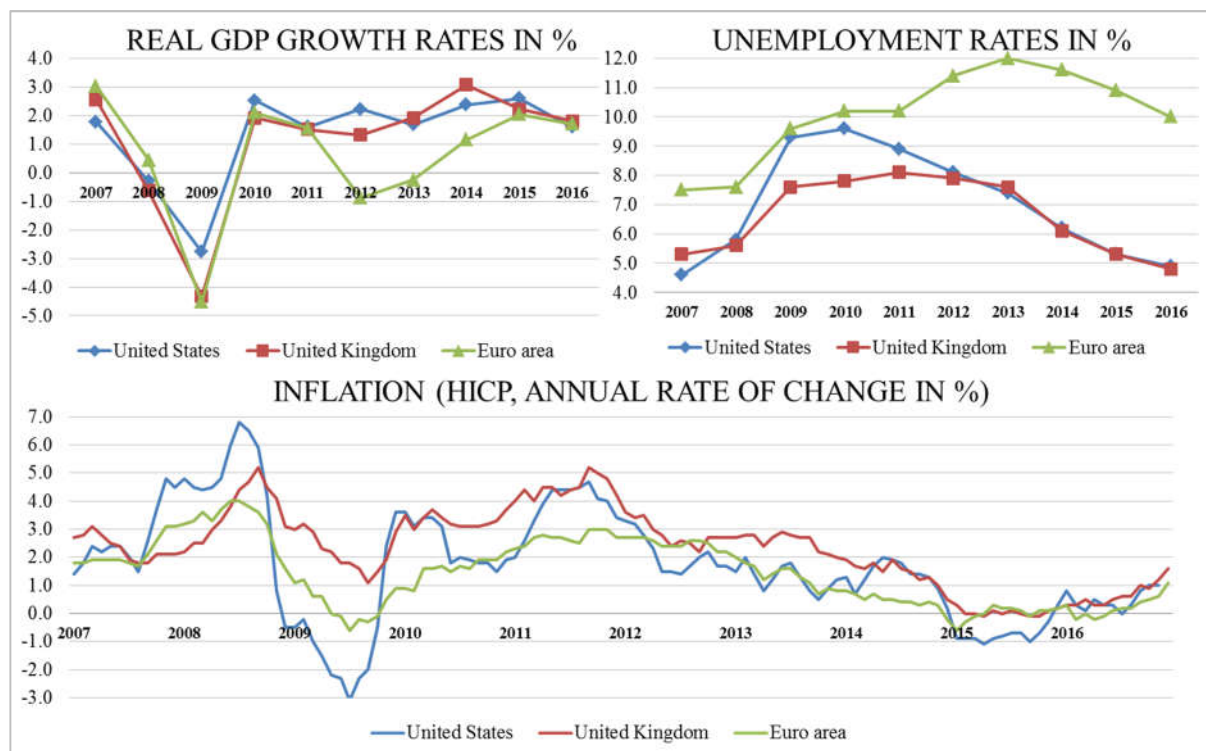
This is why I offer an alternative perspective which focuses on policymakers' beliefs about the economy. If we are to understand why ECB officials do what they do, I claim, we need to better understand their thinking and how it influences their policy preferences. This does not imply that national economic interests and institutional factors have no role to play in ECB policymaking. They certainly do. But recent ECB policies neither reflect the preferences of dominant economic actors all the time, nor are they fully determined by institutionalized rules. A full account of how the ECB makes choices *within the constraints it faces* must therefore examine how central bankers perceive economic problems and solutions.

## **1.1 The puzzling persistence of ECB conservatism**

A rough comparison of key economic indicators in the United States (US), the United Kingdom (UK), and the Eurozone shows that the financial crisis of 2007/08 initially affected economic output in similar ways. All currency areas experienced sharp increases in unemployment and a dramatic decline of growth rates. Since 2010, howev-



er, the situation has continued to worsen only in the Eurozone. Due to the European sovereign debt crisis, the ECB faced more severe output losses, with unemployment rising to unprecedented levels. During the same period, consumer prices also followed roughly similar trajectories in these regions. On average, however, inflation rates remained lower in the Eurozone (1.6%) than in the UK (2.5%) and the US (1.8%).



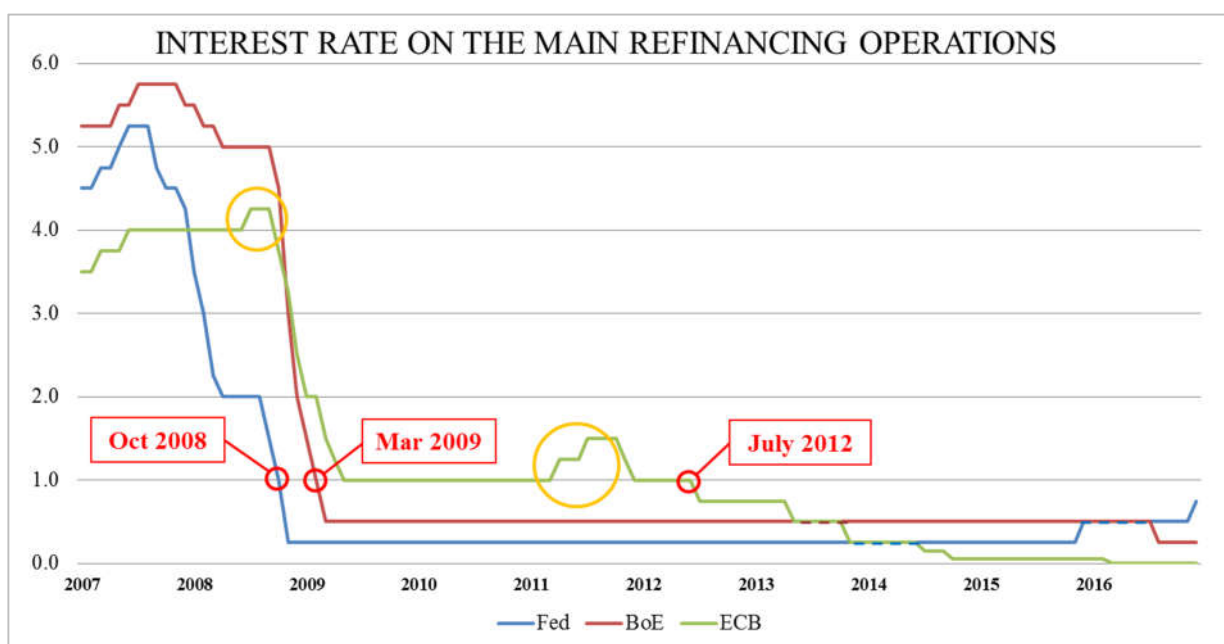
**Fig 1.1:** Growth (a), unemployment (b) and inflation rates (c), 2007-16  
(Sources: World Bank; OECD; Eurostat; U.S. Department of Commerce)

If all three currency areas were governed by the same institutions, one would expect the Eurozone to experience the most accommodative monetary policy. However, the reverse is true. Even though the Eurozone produced the lowest numbers for growth and inflation and, at the same time, faced the worst unemployment problems (see figure 1.1), its central bank did less than others to stimulate the economy. And this has attracted stark criticism both within and outside of the Eurozone. For instance, Adam Posen of the Petersen Institute for International Economics and former member of the Bank of England’s policy committee, criticized the ECB’s response to the crisis as “excessively and destructive counter-inflationary extremism”.<sup>2</sup>

Already in the early days of the crisis, both the Fed and the BoE lowered interest rates below 1%. The Fed set it to 0.25% in October 2008 and the BoE to 0.5% in March 2009; and both left them unchanged at these record-lows for more than seven years.

<sup>2</sup> “As I warned in 1993, when the ECB structure was first proposed, having an unaccountable central bank with no parliament above it, its independence protected by essentially inviolable international treaty, was a recipe for excessively and destructive counter-inflationary extremism. This is indeed what has happened in response to the crisis.” – Adam S. Posen: *Hearing before the Subcommittee on Monetary Policy and Trade of the Committee on Financial Services*, U.S. House of Representatives, 13 November 2013.

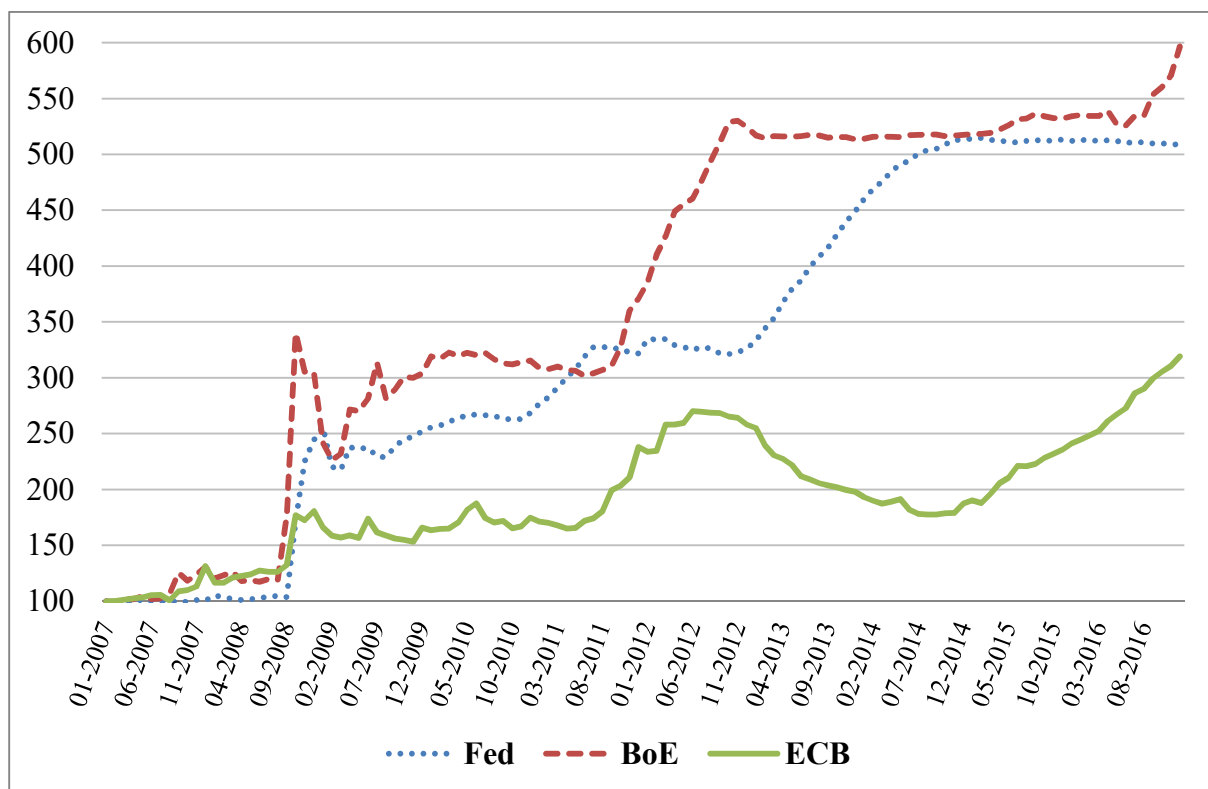
The ECB, to the contrary, first raised rates in 2008 before joining an internationally coordinated rate reduction. Once it reached 1%, however, it hesitated to go any lower until July 2012 (see figure 1.2). The differences between the ECB and its peers became most visible when it famously hiked rates twice in April and July 2011 – in the middle of the Euro crisis. This suggested to critics that “the ECB bowed to Germany's anti-inflation fetish”<sup>3</sup> and effectively made the ECB the only major central bank to raise rates in the crisis apart from the Swedish Riksbank. And just like the Riksbank, it quickly had to reverse course. During 2012 and 2013, the ECB finally reacted to the continuously rising unemployment and falling inflation rates by gradually lowering rates again until it finally hit zero in March 2016.



**Fig. 1.2:** Interest rates in the Eurozone, the US and the UK, 2007-2016  
(Sources: ECB, Fed, BoE)

Timing is of crucial importance for the impact of a central bank’s interest rate decisions. It is therefore worth noting that it took the ECB almost four years longer than the Fed to bring interest rates below 1 percent. As Kang et al. (2015) show in their analysis of market reactions to rate decisions by the Fed and the ECB, the proactive and radical Fed moves had stimulating effects on stock markets. The ECB’s later rate cuts, on the contrary, were merely perceived as reactions to deteriorating conditions and accordingly failed to affect financial conditions in a similar way. In fact, these late decisions combined with musings about inflation risks even led to negative market reactions (see Kang et al. 2015: 6).

<sup>3</sup> “Draghi must end German ECB influence”, *Sunday Independent*, 11 Sep 2011.



**Fig. 1.3:** Changes in central banks' balance sheets since 2007 (2007 = 100)  
(Sources: ECB, Fed, BoE)

Comparing central banks' unconventional policies is somewhat more difficult because their strategies and instruments differ. However, it is possible to state that the ECB refrained from using its balance as massively as the Fed or the BoE did – up until 2015. Between 2012 and 2014, the ECB's balance sheet even shrunk (because European banks repaid earlier ECB loans), whereas both the BoE and the Fed continued to increase the supply of base money. In this period the ECB chose not to increase base money despite confronting both record-high unemployment and, perhaps more importantly, the threat of deflation. It only started doing so again with the QE program of 2015. As ECB QE came almost seven years later than in the US, however, it was again judged as coming too late and being much less effective (e.g. Feldstein 2016).

Despite coming late, the QE decision signaled a remarkable metamorphosis of the ECB. Under the leadership of Mario Draghi, the ECB also introduced negative rates for deposits and a host of other measures to improve financial conditions throughout 2015 and 2016. As Gavyn Davies (2015) put it in November 2015, “showing all the zeal of a late convert, the Governing Council is now playing catch up, with a vengeance.” In this light it may be more appropriate to ask not why the ECB was doing so little but rather why it took so long to adopt the policies of its peers. These considerations lead the central question this study addresses: *Why did monetary conservatism at the ECB remain so strong for so long?*

Of course, we may also turn this question on its head and ask: *why did the Federal Reserve and the Bank of England reject orthodoxy so quickly?*<sup>4</sup> Since central bankers are normally assumed to be slow-moving, hyper-cautious individuals, rapid and radical change of central bank policy could be argued to pose a much bigger puzzle than the absence of it. In this view, the ECB is not the outlier that needs to be explained. It simply did what was to be expected, while everybody else tore up their instruction sheets overnight. In my view, these two questions are each other's mirror image. The decade following the financial meltdown in 2007 lacks historical parallels, and what it means to be conservative in this 'brave new world of central banking' is very much in the eye of the beholder. Monetary conservatism in these times is therefore necessarily relative, and this analysis zeroes in on the relatively conservative ECB for two reasons. First, compared to the Fed and the BoE, studies of ECB policymaking are in short supply. This mirrors the restricted flow of information about decision-making in the Governing Council, and this thesis tries to work its way around these constraints by approaching ECB decision-making from a novel angle.

Second, and more importantly, there is an emerging consensus that the ECB made several policy mistakes by being more conservative than its peers. While this verdict is certainly contested, most economists now hold the view that central banks' extraordinarily loose policies in the aftermath of the crisis were warranted and an important factor to stabilize their economies – and they find the Eurozone lacking in this respect. Crucially, this view is not confined to the ECB's critics on the political left or Anglo-Saxon central bankers who feel vindicated; it is shared by key ECB policymakers, too. In a recent opinion piece for the *Financial Times* Lorenzo Bini Smaghi, member of the ECB's Executive Board from 2005 to 2011, admitted mistake:

“Looking at the last decade, the evidence seems to suggest that the ECB had a tendency to time the turning points of its monetary policy in a rather asymmetric way: it has generally tightened too early and eased too late. In other words, it had a rather restrictive bias. [...]

With the benefit of hindsight, the ECB should probably not have raised rates in 2008 and in 2011 and should have eased much more quickly and adopted non-conventional policies such as QE sooner.”  
(Bini Smaghi 2017)

This is as clear a mea culpa as you will ever get from a top-level ECB official. And it begs the question: if even one of the key decision-makers admits (with the benefit of hindsight) that he and his colleagues were in the wrong, why did they do what they did? This is why this thesis focuses on the ECB's relative conservatism rather than the relative revisionism elsewhere.

---

<sup>4</sup> I thank Mark Blyth for drawing my attention to this point.

## 1.2 The conventional explanation: Germany!

Many explain the ECB's relative conservatism simply with one word: Germany. A popular narrative holds that European policymakers are constrained by a peculiar German obsession with the dangers of inflation, usually explained with the Weimar Republic's traumatic experience of hyperinflation (see Issing 2005: 334; Ehrmann & Tzamourani 2009). Implicitly, this perspective assumes that the ECB cannot ignore the preferences of the Eurozone's biggest economy because size matters. As David Marsh (2015) states it, "in the shadowy world of European Central Bank decision-making, all central banks are equal – but some are more equal than others". Yet, even if we believe this to be true, it is not clear *how and why* German inflation-aversion should constrain the choices of what is usually seen as the world's most independent central bank.

Two variants of the 'Germany argument' can be distinguished: one focusing on the ECB's Bundesbank-style mandate, the other on the influence of German politics more directly. The institutional variant of the explanation claims that the ECB is constrained by a mandate which reflects German inflation-aversion. Thanks to the Bundesbank's good track record in the 1970s, German negotiators succeeded in making Bundesbank principles the blueprint for the Eurozone's institutional structure and the ECB's narrow price stability mandate in particular (McNamara 1998). Institutionalists therefore explain differences in policy by pointing out that the Fed's and the BoE's mandates make it easier to pursue expansionist policies. Nevertheless, this fails to recognize the nature of the Maastricht Treaty as an incomplete contract as well as the flexibility of central bank mandates more generally. I argue below that the Maastricht Treaty indeed is "full of artful compromises and deliberate obfuscations" (Cohen 2008: 53) and that this gives ECB officials considerable room for maneuver.

The interest-based variant of the argument assumes a more direct influence of politics and public opinion. It expects ECB policies to reflect the interests and relative power of EMU member states – with big states usually getting their way (see Hayo & Méon 2013). Yet, this perspective is at odds with the ECB's praised independence, its formal decision rules of 'one head one vote', and some of its most prominent recent decisions. Even if we discard central bank independence as an illusion, we must consider that the German Bundesbank has as much formal voting power in the ECB Governing Council as any member state's central bank. Consequently, it has been overruled in decisive moments, including the key decisions on QE and the OMT (Outright Monetary Transaction) program. This begs the question: *why do ECB decisions follow (assumed) German preferences at some times but not at others?* I argue that we have to go beyond static notions of national interests and institutional constraints if we are to understand the complex interplay of factors influencing ECB decision-making. The following two sections shall demonstrate the shortcomings of institutions- and interest-based arguments in order to make the case for a different approach which takes policymakers, their beliefs and preferences seriously.

### 1.3 Institutions: The incomplete contract of Maastricht

ECB officials mention their mandate again and again. It is a frequent point of reference in their speeches, press conferences, and the interviews they give. The message is usually simple: ‘We are only doing what we are supposed to do! It’s all in the treaty!’ Yet, recent controversies have unearthed sharply differing views on what this mandate actually consists of, what the ECB’s objectives are, and which tools it may legitimately employ to pursue them. I therefore begin this discussion by examining what the ECB mandate states and what it doesn’t. The Treaty on the Functioning of the European Union (TFEU) specifies the ECB’s objectives as follows: “*The primary objective of the European System of Central Banks (hereinafter referred to as ‘the ESCB’) shall be to maintain price stability. Without prejudice to the objective of price stability, the ESCB shall support the general economic policies in the Union [...]*”

Two aspects are worth noting: first, while the treaty establishes the primacy of price stability, it does not constitute a ‘single mandate’. Given that price stability prevails, the ECB is also mandated to support the ‘general economic policies in the Union’. A second aspect has been famously pointed out by the ECB’s first president, Wim Duisenberg (2001): “The Treaty [...] only says that the ECB should ensure that price stability prevails, but it has not defined what is to be understood by price stability. We did that ourselves you might say.”

#### ***What does price stability mean?***

Briefly before launching the Euro, the ECB Governing Council defined price stability as an inflation rate of below 2 percent over the medium-term.<sup>5</sup> Crucially, this specified a ceiling but not a floor. According to the ECB’s influential first chief economist, Otmar Issing, the ECB Governing Council initially interpreted its target asymmetrically and therefore “radically anti-inflationary” (James 2012: 390). In Issing’s words: “an overshooting of the 2 percent level was to be clearly understood as out of line with the objective, while a lower rate of inflation was regarded as being quite compatible with it” (Issing 2008: 103). Following a review in 2003, however, the ECB restated the definition as below, *but close to*, 2 percent, underlining its willingness “to guard against the risks of deflation” (ECB 2003).

Despite this clarification, views still differ significantly regarding just how close to 2 percent is close enough. Consequently, ECB officials facing the same data can and do differ on policy. The controversies since 2013 bear witness to this fact: since inflation rates dipped farther and farther below the 2 percent ceiling, policymakers have hotly debated whether this warrants further monetary loosening or not. It shows that policymakers disagree on two matters: How far may inflation stay below 2 percent? And for how long? While both Draghi and Peter Praet have repeatedly voiced their concerns

---

<sup>5</sup> referring to the year-on-year increase in the Harmonised Index of Consumer Prices (HICP)

about a long period of very low inflation and stressed the goal of raising inflation “as soon as possible”, other Governing Council members appeared rather unimpressed by inflation rates below 1 percent.

This suggests that different policymakers interpret the ECB’s inflation mandate differently. And if this is the case, claims that the Governing Council unanimously sees “no limits to how far we are willing to deploy our instruments within our mandate” (Draghi 2016a) surely do not tell the whole story (Münchau 2016).

### ***Does the Treaty rule out unconventional policies?***

The disputes about the ECB’s objectives may have been hot, but they pale in comparison to the conflicts about its unconventional tools. Once their traditional interest rate instrument was exhausted, crisis-fighting central bankers around the world entered a period of experimentation. In the Eurozone this experimentation gave birth to instruments such as the Securities Markets Program (SMP) in 2010, the Outright Monetary Transmission (OMT) program in 2012, and the Asset Purchase Program (APP) or Quantitative Easing (QE) in 2015. All these policies have led to sharp conflicts in the Governing Council, conflicts wherein both sides (monetary hawks and doves) constantly referred to the Maastricht treaty. While critics repeatedly claimed that such programs go beyond the ECB’s mandate, Mario Draghi (2012) held that “fulfilling our mandate sometimes requires us to go beyond standard monetary policy tools.”

The issue of ‘monetary financing’ became the focal point of these disputes. Article 123(1) of the TFEU prohibits the ECB from *directly* purchasing governments’ debt instruments to finance their budgets. Whether or not the proposed policies constituted such a form of prohibited fiscal policy in terms of the treaty thus became the key question – a question to which different actors, including courts, gave very different answers. The OMT, in particular, has become the subject of legal probes at both the German Constitutional Court and the European Court of Justice (ECJ). The German court claimed that soaring prices for government bonds in Europe’s periphery reflected underlying economic fundamentals – too much debt – and the ECB had therefore no right to correct the markets (de Grauwe & Ji 2015: 743).

The ECJ, however, subscribed to the ECB’s view that markets were driven by *unfounded fears* of a Eurozone breakup. In this view, the skyrocketing prices of peripheral government debt constituted a speculative impairment of the monetary transmission mechanism – and correcting these developments via the OMT was therefore a legitimate monetary policy operation. The contrasting court opinions demonstrate just how different the ECB’s mandate can be understood. They underscore that the Maastricht provisions are vague enough to be neither verifiable nor enforceable. As a result, old and unsettled conflicts have reemerged.

### ***Broadening the mandate?***

Both the OMT and the QE decision are considered crucial turning points of ECB policy. First, the OMT de facto transformed the ECB into a lender of last resort (LOLR) to governments (de Grauwe 2013). The Maastricht treaty makes no explicit reference to the role of the ECB as a LOLR (see Eijffinger 2005: 475) – a role that some experts view as a central bank’s main reason d’être (Goodhart 1988). This gap remained until the crisis struck and Mario Draghi’s ‘whatever it takes’ assumed this function. Second, the adoption of a large-scale bond-purchasing program in 2015 implies that the current ECB management increasingly differs from its predecessors in how it interprets its price stability mandate. Instead of being rather unconcerned with very low levels of inflation, it now takes the threat of deflation very seriously. What is more, it stresses the risks of not expanding the money supply for “jobs and growth and, eventually, for the future of our monetary union” (Draghi 2016b). In other words, it shows concerns not only for price stability but for the ‘general economic policies in the Union’ as well.

Thus, both OMT and QE represent significant changes which the Maastricht treaty neither denies nor demands. Rather than strictly constraining central bankers, the treaty’s incompleteness leaves ECB leaders ample room for maneuver. It is perhaps stating the obvious that law requires interpretation. For all the talk about the ECB’s mandate, however, it is worth repeating that “Maastricht does not come with an instruction sheet” (Schulz & Tesche 2016). Furthermore, the implicit broadening of its mandate during the crisis is by no means a peculiarity of the ECB (see Orphanides 2013; Davig & Gürkaynak 2015). According to Ben Bernanke (2011: 2) “virtually all inflation-targeting central banks interpret their mandate flexibly”. Due to this flexibility, it is crucial how ECB leaders interpret their role. In this respect, I argue that recent changes at the top coincide with an altered understanding of the ECB’s mission and corresponding changes of its monetary policy stance. All this suggests that policymakers matter because the Maastricht Treaty is not the hard constraint many believe it is.

#### **1.4 National interests in a world of radical uncertainty**

Governments and interest groups certainly have pronounced interests regarding how monetary policy is conducted. Fierce criticism of the ECB from both the German banking sector and Germany’s Minister of Finance recently reminded us of this in an unusually open fashion.<sup>6</sup> Even the most independent central bank would be ill-advised to continuously ignore such voices. Generally, “an ‘independent’ central bank will still need to maintain its elective and political supports by ensuring that a sufficient proportion of the population understands and accepts its objectives and actions” (Goodhart 1992: 31). This need to stay politically sensitive despite being independent has probably been most famously pointed out by the Fed’s former chairman, Paul Volcker: “the congress created us and the congress can uncreate us” (cited in Greider 1987: 473).

---

<sup>6</sup> “Mario Bothers: Germany Takes Aim at the European Central Bank”, *Spiegel Online*, 8 Apr 2016.



The ECB is a special case in this regard as well. As the world's one and only supranational central bank, the ECB gained its independence not by national law but through an international treaty which is extremely difficult to modify.<sup>7</sup> Not least because of the high institutional hurdles to touch the ECB's independence, it is often called '*the world's most independent central bank*'. The US Congress, for instance, has between 1947 and 2014 introduced 879 bills with the aim of changing the power, structure, or governance of the Federal Reserve (Binder & Spindel 2016), while there has been no single serious attempt to change the legal foundations of the ECB.

What is more, the ECB does not have a clear principal equivalent to the US Congress (in the sense of one actor that could theoretically try to 'uncreate' it). In the absence of an economic government for the Eurozone, several institutions could with some justification be considered as principals of the ECB, be it the European Parliament, the Eurogroup, the Council of Ministers, or governments of powerful member states. Due to this plethora of actors and their often informal links to each other and the ECB, however, these relationships are very difficult to conceptualize – particularly regarding their relevance for monetary policy decisions which the ECB Governing Council is supposed to make autonomously. Furthermore, it is hard to argue that ECB policy disproportionately reflects the preferences of bigger countries, when its decisions are in line with German interests in some instances but not in others.

Those focusing on the role of national interests in the Euro crisis often frame it as a battle between creditor and debtor states. This goes in particular for debates about fiscal austerity and the economic reform packages in the so-called program countries. Applying the same logic to monetary policy would lead us to assume that creditor states (such as Germany) prefer low inflation rates because they increase the real value of nominal debt. Debtors, conversely, can be thought to prefer higher rates on inflation, which would reduce the real value of what they owe.

As Brunnermeier et al. (2016) point out, however, two considerations make this argument appear overly simplistic. First, the very notion of creditor and debtor states builds on the sum of net flows between country's citizens. "However, net flows mask much larger gross flows and an accumulation of a wide variety of personal and institutional positions: there may be powerful and substantial debtors in the net creditor countries" (ibid: 3). Second, a German creditor might be in favor of monetary stimulus for his debtors' countries if she perceives this as increasing chances of debt repayment. If austerity and tight credit conditions – not to even speak of a breakup of the Eurozone – make defaults in Europe's south more likely, their creditors (in Germany and beyond) have a lot to lose from overly orthodox monetary policy.

---

<sup>7</sup> As ECB monetary policies are likely to create winners as well as losers among the signatories of the Maastricht Treaty, it is hard to imagine a unanimous initiative for treaty change.

A second reason why I emphasize the role of legally autonomous policymakers concerns the particular environment of post-2007 monetary policy. It is well understood that monetary policymaking generally involves a high degree of uncertainty because our knowledge about the economy and the monetary transmission mechanism is limited (Greenspan 2003).<sup>8</sup> While uncertainty is a chronic condition plaguing monetary policymakers, the breakdown of traditional economic relationships after 2007 has made central bankers emphasize a very different and acute kind of uncertainty. This radical uncertainty (or Knightian uncertainty), describes a situation which is in “a high degree unique” (Knight 1921: 233).<sup>9</sup> Because of this uniqueness it is “impossible to represent the future in terms of a knowable and exhaustive list of outcomes to which we can attach probabilities” (King 2016, see also Beckert 1996: 804). In other words, we cannot possibly know the likely consequences of a decision, and it is therefore hard to know which choice serves our (perceived) interests best. What this implies for decision-making in a monetary policy committee has been aptly described by the Fed’s Charles Plosser (2015):

*“So this is a period of uncertainty and so you have good people sitting in that room, smart people, trying to figure it out. And it shouldn’t be surprising at all that all of these smart people have different ways of thinking about this.”*

If other central banks are confronted with radical uncertainty, this is arguably all the more true for the ECB as a young, supranational institution. For instance, the Fed’s ability to draw on history lessons are limited by the profound changes of the financial system since the Great Depression, which make monetary policymaking today very different from the 1930s. Consequently, they could only very cautiously draw on past experience. Compared to the uncertainties the ECB faces, however, this is an almost comfortable situation. No supranational central bank managing a large and heterogeneous currency area like the Eurozone has ever existed before. Consequently, the ECB can draw on no history lessons whatsoever. It finds itself in truly uncharted waters, even more so than its peers. Following the notion of radical uncertainty thus implies that neither the interests of actors (inside and outside of the Governing Council) themselves, nor their link to ECB choices are self-evident. What, then, guides policy-choices in hard times? Or, as Akerlof & Shiller (2010: 3) put it: if actors are so uncertain, how *are* decisions made?

---

<sup>8</sup> “Uncertainty is not just an important feature of the monetary policy landscape; it is the defining characteristic of that landscape” (Greenspan 2003)

<sup>9</sup> According to Knight (1921: 259), uncertainty stems mainly from errors in predicting the future. Others define the incommensurable nature of knowledge about the past and the present as another source of uncertainty. Ambiguity – understood as the capability of being understood in more than one way (Best 2008) – thus adds to the uncertainties policymakers face.

## 1.5 The argument in brief: taking policymakers' ideas seriously

When a crisis occurs, one of the most influential monetary economists of all times wrote, “the actions that are taken depend on the ideas that are lying around” (Friedman & Friedman 1982: viii). During his lifetime, Milton Friedman himself witnessed huge swings in opinion about what monetary policy can and should do— and how this changed the policies central bankers pursued. These different ways of thinking about the economy seemed to lose significance during the Great Moderation, when the puzzle of monetary policy seemed resolved and central bankers credited themselves with providing the backdrop for both low inflation and stable growth. As the financial crisis of 2007 abruptly and definitely ended this golden age of simple, straightforward and mostly conflict-free monetary policymaking, sharply different views among central bankers quickly resurfaced.

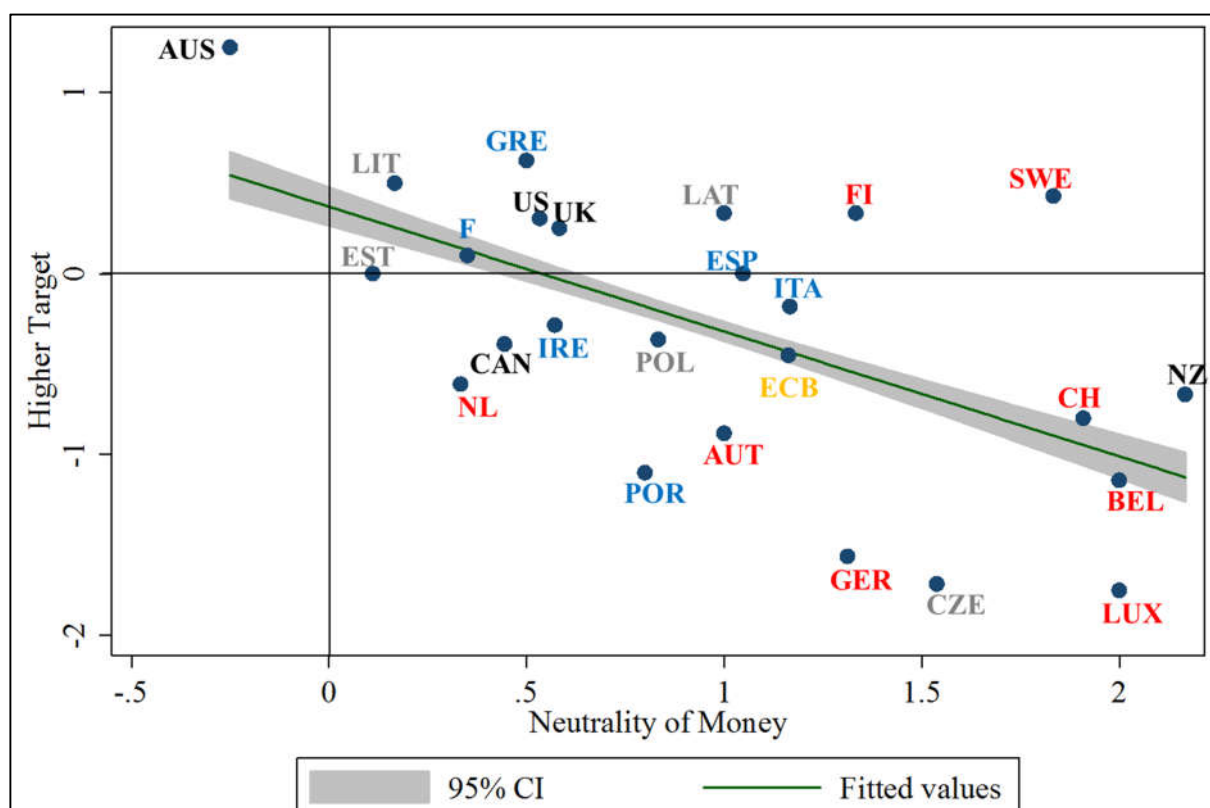
Yet, these different ideas are not simply lying around, as Friedman suggested. Rather, I argue, they are carried by professional economists and policymakers who have internalized a particular view of the economy through experience. Central bankers thus hold specific causal beliefs, which may be influenced by their upbringing, their education or the formative years of their professional careers. Most importantly, these beliefs provide them with an account of how the economy works. As such, monetary theories – understood as probabilistic arguments connecting causes and effects – offer central bankers guidance in uncharted waters. They provide them with an interpretive framework, allowing for reducing uncertainty and thus making collective action possible (Blyth 2002: 35-39). As causal beliefs help central bankers to make sense of uncertain situations, they greatly influence the policies they adopt when fighting a crisis. This is why my approach to ECB policymaking in the crisis focuses on the economic beliefs central bankers hold.

My argument that central bankers' beliefs about the economy critically influence their policy choices is rooted in four key assumptions:

1. **Autonomy:** central bankers are shielded from direct political pressure
2. **Flexibility:** central banks' mandates give them considerable room for maneuver
3. **Interpretation:** the absence of clear cause-and-effect relationships in monetary affairs allows central bankers to interpret economic problems and solutions very differently (e.g. when dealing with the dilemma of inflation-prevention versus recession-fighting in the current crisis)
4. **(Knightian) Uncertainty:** all of the above is of particular significance in a crisis, understood as a unique situation that does not allow agents to draw on past experience.

I introduce a novel measure of economic beliefs based on a survey I conducted among 422 central bank economists in 2016. My survey data shows a) that economic beliefs matter for individuals' policy preferences and b) that both beliefs and preferences are

unevenly distributed among different central banks. In particular, the ECB leans more towards orthodox beliefs and hawkish inflation preferences than the US Fed and the Bank of England. It is significantly more conservative. Figure 1.4 below shows that ECB economists are more likely than their Anglo-Saxon counterparts to believe that money is neutral (in the sense that it cannot have a lasting impact on growth or employment). As they are more skeptical about the contribution monetary policy can make to stabilize the economy, they are also more opposed to higher inflation targets. Here, respondents' beliefs about what monetary policy *can do* influence their opinion about what it *should do*. Stated more generally, “the belief about what is possible critically shapes what is desirable” (Steinmo 2003: 209).



**Fig. 1.4:** Linear regression for preferences for higher inflation targets (Y) on the belief in the Neutrality of Money (X), means per institution

Within the Eurosystem, national central banks are clustered regarding both beliefs and preferences. Interestingly, the pattern suggests a dividing line in economic philosophy between core and periphery. This, I argue, shows that the frequently surfacing conflicts inside the ECB's Governing Council are better understood in terms of different ways of economic thinking than in terms of the conflicting interests of creditor and debtor states. And as debates about ECB conservatism often focus on the role played by Germany, my analysis suggests that it is worth reconsidering what 'German influence' actually means. I argue that it is German ideas rather than German politics, which effectively constrain the ECB. If anything, *monetary orthodoxy prevails, not 'Germany'*. And while monetary orthodoxy is routinely ascribed to German politicians

and central bankers, it is by no means confined to them. I thus argue that orthodox economic beliefs matter precisely because they are shared by others, too. And this includes, most importantly, central bankers in other institutions. My data suggests that economists in most northern European central banks – within as well as outside of the Eurosystem – share orthodox economic beliefs often associated with Germany. The central banks of Austria, Belgium or Luxembourg, for instance, may not find themselves covered in the media as openly clashing with ECB policies because they do not pursue a similarly aggressive communication policy as the German Bundesbank. Behind closed doors, however, their central bank governors can be expected to often side with German positions because they are likely to perceive economic problems and solutions similarly.

This interpretation of the dynamics of ECB decision-making corresponds with the policies it has adopted since 2007. The most prominent moves – the OMT announcement in 2012 and the QE program of 2015 – were taken despite vocal protests by German central bankers and politicians, clearly showing that neither the Bundesbank nor the German government can ultimately stop the ECB from pursuing policies they oppose. ECB policymakers can and do outvote German officials. However, they often choose not to do so. This is, I argue, because German positions are often shared by others. A consensus-oriented decision-making mode, which aims at finding common ground through open debates rather than majority voting, may exacerbate the influence of German positions further, given that the Bundesbank enjoys a particularly strong reputation in central banking circles. I argue that all this makes the ECB unlikely to go against German positions. And this is why ECB monetary policy remained remarkably conservative for a very long time.

## **1.6 Gaps in the literature**

By introducing a new measure of central bankers' economic beliefs, this thesis addresses what I perceive as three shortcomings of the central banking literature. First, many studies focus excessively on formal central bank independence and ignore how central bankers make use of their autonomy. Second, preferences of central bankers are either neglected altogether or assumed to be merely a function of a single characteristic. A third limitation is the focus on consensus, which risks downplaying existing divisions.

### ***The strange absence of agency***

Most monetary policy studies focus on central bank independence (CBI), its measurement, sources, and effects (e.g. Eijffinger & de Haan 1996; Alesina & Summers 1993; Acemoglu et al. 2008). This emphasis stems from the assumption that a legally mandated independent central bank will consistently deliver lower inflation than governments. This is because governments tend to stimulate the economy with expansionary monetary policies in order to increase their chances of re-election, which leads to per-

manently higher levels of inflation. According to this view, democracy has an inflationary bias (see Kydland & Prescott 1977). Based on this strong assumption, the CBI literature focuses on the question of which institutional setting best guarantees independence – and thereby low inflation. Consequently such studies give little attention to the roles central bankers themselves might play.<sup>10</sup>

Delegating authority to autonomous central banks undoubtedly influences monetary outcomes in important ways. The excessive focus on institutional autonomy, however, runs the risk of ignoring other important factors. Institutions *shape* behavior and outcomes (i.e. by constraining the range of possible choices), but they do not by themselves ultimately *determine* them (Steinmo 2008). For instance, almost all central banks follow a flexible inflation target, which allows them to accept some degree of deviations from the target in order to minimize output variability (Cukierman 2002). Whether they choose to do so or not, is not institutionally determined. Therefore, indicators of CBI alone are necessarily insufficient to explain monetary policy. In order to understand how central bankers make use of their autonomy, we need to supplement CBI measures with measures of policymakers' preferences.

### ***Untested assumptions regarding actors' preferences***

If policymakers' choices do not simply reflect existing institutions, which other factors influence what they do? Christopher Adolph (2013) argues that central bankers' previous work experiences strongly predict their policy choices, mainly distinguishing the 'financial type' and the 'government type' of central banker. This implies that central bankers' preferences reflect the primary interests of two sectors: governments have an electoral incentive to stabilize economic growth and employment, whereas financial firms are primarily concerned with inflation (Adolph 2013: 38). Consequently, central bankers with backgrounds in the financial sector should be more anti-inflation than career bureaucrats.

Following these considerations, Adolph develops an easily quantifiable proxy of central bankers' preferences: the ratio of working years spent in either sector. This allows for elegant formal modeling. However, it also comes at the cost of questionable assumptions. For instance, why are preferences determined by previous working patterns only? And do they really remain unchanged during their term in office? On the first question, Jeffrey Chwioroth's (2007) study of IMF officials provides an alternative: he codes their professional training backgrounds according to the dominant economic ideas taught at the universities they attended. Regarding the latter question, it must be noted that Adolph studies monetary policy prior to 2000. Regarding the uncertain con-

---

<sup>10</sup> Similarly, cultural and intergovernmental approaches tend to ignore the roles played by central bankers. They see them constrained by the societies within which they are embedded (Tognato 2012; Howarth & Rommerskirchen 2013; Issing 2006; Hayo 1998), or assume that the preferences of the Eurozone's major economies define ECB policies (Talani 2004; Puetter 2001: 12).

ditions of the current crisis, he states that “the factors explaining monetary policy behavior in normal times may be much less reliable” (Adolph 2013: 102).

Both Adolph and Chwierothe assume preferences to emerge at one point and remain unchanged ever after. Therefore, their measures are necessarily stable over time. They simply rule out the possibility that policymakers learn or adjust – no matter how dramatic the developments are they are confronting. Analyzing central bankers’ preferences in times of change, I argue, requires more flexible measures. My survey-based approach thus measures beliefs and preferences directly, instead of deducing them from policymakers’ career paths or educational affiliations.

### ***The overemphasis of consensus***

Many studies of economic ideas focus on moments of change and explain this with a shifting consensus among policymakers. Kathleen McNamara’s (1998) study on the emergence of EMU, for instance, argues that a neoliberal consensus emerged among policy elites in the mid-1970s and paved the way to European monetary cooperation. This consensus elevated the pursuit of low inflation over growth or employment and, thus, redefined state interests regarding cooperation. It became institutionalized in the ECB and persisted during the first decade of its existence (McNamara 2006a).

But how does consensus emerge? McNamara partly turns to exogenous factors and argues that three aspects were crucial for transforming policymakers’ ideas: a perceived policy failure (Keynesianism and stagflation), a policy paradigm innovation (monetarism), and the German model as real-world example of monetarism’s success. However, we can also explain consensus with endogenous factors. Seen this way, consensus is rooted in agents’ shared characteristics. Regarding central bankers, Marcussen (2006) finds striking similarities regarding gender, education and career trajectories. Because they had many opportunities to be socialized in parallel ways, Marcussen (2006: 191) claims, central bankers are likely “to look at and analyze the world in very similar ways”.

This consensus view, however, does not go unchallenged. Jones (2013: 145), for instance, argues that “the ideational consensus underpinning Europe’s single currency was always more rhetoric than reality”. My survey data substantiates this view. It suggests that there are important areas of disagreement and unspoken political divisions both within and between central banks. During good times, these divisions may not matter as much, since central bankers may be able to ignore their different views when monetary policymaking is a straightforward and conflict-free business (as it arguably was for most of the two decades leading up to the crisis). During hard times, however, different views about the economy matter a lot and can lead to sharp and open conflicts. In the new era of central banking, most experts expect that central banks’ new and controversial instruments are here to stay. This implies that divisions about the ‘right’ way of doing monetary policy are likely to remain important, too. I therefore

expect central bankers' economic beliefs to remain a crucial factor for EU economic policy in the future.

## 1.7 Plan of the dissertation

This dissertation is divided in three parts:

- The first part offers some historical (chapter 2) and organizational background information (chapter 3) on ECB policymaking.
- The second part focuses on economic beliefs, by analyzing what central bankers can (chapter 4) and do disagree about (chapter 5).
- The final part shows how these different views about the economy influenced ECB monetary policy after 2007 (chapter 6).

I begin by offering a brief history of the ECB in chapter 2. Here, I work out which ideas and interests gave birth to the world's only supranational central bank and shaped its conduct of monetary policy during the first decade. Chapter 3 then zeroes in on the question of how ECB decisions are actually made. It documents both formal and informal decision-making principles and describes which actors have access to the decision-making process at which point. Crucially, it focuses on the role of Eurosystem staff and how they interact with ECB officials when preparing decisions. Together, the first two chapters provide essential background information about the ECB as an institution, with an emphasis on what role individuals and their ideas play in ECB policymaking.

Against this background, I start my discussion of economic beliefs and their significance for central bank decisions. I first show what central bankers potentially *can* disagree about (chapter 4) and second, where they actually do differ – and why (chapter 5). Based on the assumption that actors' positive beliefs (what is or what is possible) crucially influence their normative beliefs (what should be or what is desirable), chapter 4 first traces how monetary thought has evolved historically. By showing what monetary economists have disagreed about in the past, it introduces macroeconomic paradigms which influence how central bankers evaluate the risks and benefits of their policies. Chapter 5 then reports how 422 central bank economists and policymakers evaluated these monetary theories in a survey carried out in 2016. Here I show that central bankers continue to disagree about fundamental aspects of monetary policymaking – and that these different economic beliefs crucially influence their policy preferences. Most importantly, the distribution of economic beliefs among different Eurosystem institutions is non-random: orthodox economic ideas are most widely held in core countries' central banks, whereas southern European institutions tend to be much more revisionist regarding their beliefs about the economy.

Chapter 6 documents how these conflicting beliefs influenced the ECB's post-crisis decisions, by giving a detailed account of ECB policy after the financial crisis (2007-



2015). This narrative reflects the debates surrounding all important decisions and the positions key actors inside and outside of the ECB fought for. Crucially, I do not only aim to offer a narrative of what was done; equally important, I reconstruct *the paths the ECB chose not to take*. By doing so I intend to show that very different outcomes were conceivable, if different actors with different economic beliefs had been able to determine the ECB's path rather than those who actually did.

The concluding chapter 7 offers a summary of my findings and a discussion of what they imply for studying ideas and the future of Europe's common currency.



## 2. HOW DID WE GET HERE? THE ROAD TO EMU AND THE FIRST DECADE

*"In short, non-German monetary policymakers do not like the present situation and would prefer an arrangement whereby the perspective of monetary policymaking would not be purely German, even if it imposed exactly the same monetary discipline."*

Tommaso Padoa-Schioppa, 29 June 1995

Among the world's central banks the ECB is a curiosity, an institution of the extremes. It oversees the world's largest economy and is, at the same time, the youngest member of the venerable club of central banks. It is known as the most independent monetary institution the world has ever seen and, perhaps most curiously, it is the only central bank without a state. As such it does not have a fiscal counterpart in terms of a Euro-zone Treasury, which makes the ECB's relationship with its member states a particular concern – and much has been made of its relationship with its biggest member state, Germany.

In many ways, the ECB was created as a German institution. Located in Frankfurt, it was modelled after the neighboring Bundesbank's principles and practices. Its independence, its mandate, and its administrative structure all reflect the Bundesbank blueprint, as does the ECB's unique two-pillar monetary policy strategy. The latter was established under the leadership of Otmar Issing, the ECB's influential first chief economist, who had previously served a similar function at the Bundesbank. Through this continuity in terms of both institutional rules and leading personnel, the newly-founded ECB hoped to inherit the Bundesbank's credibility and reputation as a respected and autonomous inflation fighter. Thus, it has been argued that German policymakers succeeded in enshrining their ideas in the Maastricht treaty (McNamara 1998) as well as the ECB's monetary policy strategy (Kaltenthaler 1998).

This is not to suggest that these decisions about the ECB's design and policy orientation were not contentious. The opposite is true. As one might expect given what was at stake, the political negotiations in the run-up to Maastricht were highly controversial. Many of these controversies have recently resurfaced as the crisis forced politicians and policymakers to revisit the Maastricht decisions and examine whether fundamental 'design flaws' are the underlying reasons for EMU's current troubles. Consequently today's bones of contention and lines of conflict resemble those at the pre-Maastricht discussions to an astonishing degree. This is why I begin this dissertation with a brief account of how the ECB was created, sketching out which actors and ideas were critical for EMU and the ECB to take shape in its current form.

### 2.1 The Road to Maastricht

The idea of monetary integration in Europe goes a long way back. The creation of the currency union, kicked off by the creation of the Delors Committee in 1988, was certainly not the first European attempt at monetary cooperation. Already in the late 1960s mounting tensions in the Bretton Woods system of fixed exchange rates spurred

first steps in this direction (Dyson & Featherstone 1999: 1), even though they eventually failed because of divergent economic and monetary policies among the prospective member states. Therefore, the first real attempt at stabilizing exchange rates among members of the European Community (EC) after Bretton Woods, called the ‘currency snake’, was a rather short-lived and unsuccessful experiment. Its first year was already fraught with currency crises, which led Britain and Denmark to quickly abandon the agreement and let their currencies float. With the second exit of France in 1974, the snake had in effect become a ‘D-mark zone’ consisting of Germany, Belgium, and the Netherlands only (McNamara 1998: 107f.). Overall, this first attempt was marked by high degrees of disagreement, and consequently “the mid-1970s marked the low point in European monetary integration” (Gros & Thygesen 1992: 20).

### ***The European Monetary System: paving the way to EMU***

A second attempt fared much better, and its success paved the way to full monetary integration. The European Monetary System (EMS), started in 1979, managed to both maintain its initial membership and reduce exchange rate variability among its members (McNamara 1998: 20-22). After the ‘snake’ disaster, it was rather surprising that a new initiative for monetary integration was to follow so quickly. And the initiative was indeed of political, rather than economic, nature (Gros & Thygesen 1992: 34). With French President Valéry Giscard d'Estaing and Helmut Schmidt as German Chancellor, a strong Franco-German axis was at the heart of the EMS initiative, and this proved to be crucial for its success. Motivated by the prospect of greater independence from the United States, the collapse of the US dollar in 1977-78 gave an impetus to shield Europe from its effects through greater coordination (Dyson & Featherstone 1999: 2). Initially, this new attempt included concessions to weaker currencies of other states in the European Community (EC) in order to make the EMS more attractive. For instance, a GDP-weighted currency basket (European Currency Unit – ECU) should serve as the anchor of the system instead of the Deutsche Mark (DM), which had proved to be too strong under the failed Snake system. Due to German domestic opposition (most notably from the Bundesbank and business groups) against any step that could potentially undermine the country’s price stability, however, these changes were largely cosmetic. The EMS agreement thus left the ‘Snake’ regime largely unchanged, with the DM acting as its de facto anchor (McNamara & Jones 1996: 9).

But even though the EMS closely resembled the ‘snake’ institutionally, it functioned surprisingly well. Many observers explain this with “a process of voluntary emulation of the German model” (Dyson & Featherstone 1999: 2), which caused monetary policies to converge in the 1980s. In her seminal book, *The Currency of Ideas*, Kathleen McNamara (1998) characterizes the success of the German model as a crucial precondition for EMU. She argues that the process of monetary integration required first and foremost a convergence of beliefs about monetary policy. Over the course of the late 1970s and early 1980s, a new neoliberal policy consensus about the goals and

instruments of monetary policy emerged which included three elements: the perceived failure of Keynesian policies, monetarism offering a coherent alternative, and Germany's success as a persuasive example of the merits of pragmatic monetarism. Therefore, many EC countries which had followed (often failed) Keynesian policies and consequently abandoned the path of the DM under the 'Snake', now stayed closely aligned. Most importantly, the French "became proponents of a *franc fort* philosophy that appeared much closer to the German hard-currency policies than to their former exchange rate strategies" (McNamara & Jones 1996: 10). They therefore stayed on the inside this time, leaving the Franco-German axis intact.

Despite its successes, the EMS did not entirely impede tensions. It did – after a turbulent start in the years 1979-1983 – effectively coordinate exchange rates and promote a convergence in inflation and interest rates. At the same time, however, policymakers outside of Germany started to object to German dominance and the asymmetrical distribution of responsibilities to take corrective action favoring the Germans (Kaltenthaler 2006: 19). Both the success and the asymmetry of the EMS then led to the impression that the only practical alternative to German dominance would be the move towards full monetary union (Gros & Thygesen 1992: 157).

In January 1988, the French finance minister Edouard Balladur presented a first proposal which included the idea of a European central bank – followed by a similar memo from his Italian counterpart, Giuliano Amato (ibid: 311-313). Unsurprisingly, these moves were initially met with caution by the German ministry of finance, banking and industry associations, and, of course, the Bundesbank. However, the country's political leaders, Chancellor Helmut Kohl and Foreign Minister Hans-Dietrich Genscher took a different stance. They endorsed EMU as a political project bringing security to Europe because it had the potential to overcome the tensions in Franco-German relations the EMS had often provoked. In a memorandum Genscher explicitly favored EMU – a crucial "turning point in the relaunch of EMU" (Dyson 1999: 102) which took many by surprise. In order to overcome domestic opposition, however, the Genscher Memorandum stated that a European central bank should be modeled on the Bundesbank and that its creation should be conditional on substantial economic convergence (Genscher 1988). The German Chancellor threw his weight behind the idea, too, and initiated the creation the so-called Delors Committee.

The Delors committee effectively co-opted the central banking community to design the blueprint for the currency union. Next to Commission president Jacques Delors and three independent experts, it included the central bank governors of all EC countries, which gave the committee legitimacy. What is more, by binding in central bankers, potential future opposition from monetary experts – and especially the Bundesbank – was effectively preempted. As virtually all recommendations of the Delors Report of April 1989 found their way into the Maastricht Treaty (Verdun 1999), the committee's work and set-up deserves further attention.

It was not a committee of equals. The dominant figure was Bundesbank president Karl-Otto Pöhl, who took the initiative by issuing his proposal for the design of EMU and the ECB (Dyson 1994: 129-30; Kaltenthaler 2006: 22; Verdun 1999: 319-20). This, unsurprisingly, was closely in line with the Bundesbank's own model. Other central bankers within the committee agreed that the Bundesbank provided a useful blueprint for the ECB's mandate, internal structure and external relations. Taking into account the Bundesbank's enormous autonomy in monetary policy formulation and implementation, it is hardly surprising that central bankers would find this model appealing (Gros & Thygesen 1992: 320). Consequently, the Delors Report, which proved to be so authoritative, incorporated the main principles of the German proposals. Tommaso Padoa-Schioppa, member of the Delors Committee, thus characterized the fundamental compromise of EMU as such: "*we do the currency union, but we do it the German way*".<sup>11</sup>

### ***High politics: negotiating a new treaty while the Soviet world collapses***

In the meantime, the world changed radically. The collapse of the Soviet Union and the fall of the Berlin Wall in the fall of 1989 brought the prospect of German reunification on the agenda, which had repercussions for negotiations on EMU, too. Spurring fears of an all-too-powerful Germany in both France and Britain, these developments created an even stronger impulse to bind Germany at the European level. Thus, an important element of the French strategy towards the issue of German reunification was to pressure the Kohl government to agree to EMU creation as fast as possible (Kaltenthaler 2006: 23). The reservations signaled by Paris and London posed a real threat to Kohl's goal of quickly re-unifying Germany. This has even led to speculations that France openly demanded the creation of EMU in return for agreeing to a reunified Germany in a high-level backroom deal.<sup>12</sup> Consequently, giving up the DM is often portrayed as the price of re-unification, even though German and French leaders repeatedly denied this claim. To frame it more positively, however, a strong commitment to EMU was an opportunity for the German government "to prove that a larger Germany would remain a good European citizen" (Sandholtz 1993: 38).

However we explain the German commitment, once it was secured the negotiations progressed rapidly. An intergovernmental conference was held in Rome in December 1990 to negotiate the exact nature of European monetary integration and the result was agreed upon at the Maastricht summit only one year later. German negotiators succeeded in maintaining the Bundesbank's core principles: policy autonomy and a mandate focused solely on fighting inflation. Thus, the provisions of the Maastricht Treaty were almost identical to those proposed by the Delors Committee – and therefore crucially shaped by Bundesbank President Pöhl. On the other hand, Germany gave ground on other issues, most notably by accepting the beginning of 1999 as the latest date for

<sup>11</sup> "Die Dolchstoßlegende", *Die Zeit*, 20/1998 (7 May 1998)

<sup>12</sup> see "The Price of Unity: Was the Deutsche Mark Sacrificed for Reunification?", *Der Spiegel*, 30 Sep 2010

introducing the Euro. This, however, would only occur if countries met a number of criteria for economic convergence first.

In this way, the treaty represents a compromise between two contradictory beliefs about how monetary integration can be achieved (see Mongelli 2008: 9f.). The ‘monetarist’ perspective – championed by the French – assumed that monetary integration, once established, would by itself drive economic convergence among member states. Thus the most promising road seemed to start EMU as early as possible. The ‘economist’ view, on the other hand, held that economic convergence had to happen first as it was a precondition for a functioning monetary union. This view was supported by the Germans, who managed to make countries’ access to EMU conditional on achieving a rather demanding set of economic convergence criteria for public debt, budget deficits, inflation and interest rates (Kaltenthaler 2006: 26).<sup>13</sup>

It is almost universally accepted that the way EMU took shape in Maastricht was largely determined by French and German preferences (see e.g. Moravcsik 1998; Loedel 1999; Heisenberg 1999). Even those studies which focus on the role played by smaller countries do not challenge the decisive role of the Franco-German axis (see Maes & Verdun 2005). But how are we to understand both countries’ preferences regarding EMU? The French rationale for pushing EMU was arguably rather straightforward: to replace German domination by a system in which Germany and France vote as equals. Within the EMS, France as well as all other countries had effectively followed German policies without having a say in the decision-making process. Wim Duisenberg, in his hearing as candidate for the ECB presidency with the European Parliament, summarized this experience from the perspective of the Netherlands:

*“I have no hesitation in admitting that our monetary policy was more or less dictated by German monetary policy, but at least it was the monetary policy of the country with a track record of stability and low inflation. We imported low inflation from Germany by that means. [...] One of the prices we paid was that as one of the smaller economies we more or less had to shadow the monetary policy of the big brother, of the Bundesbank. In the future we will not shadow but will co-decide. We have got our voice back.”* (Duisenberg 1998)

Germany’s motives to join the Euro, however, were more difficult to understand. The vision of its leaders that EMU would safeguard peace and security in Europe may be one factor, especially if we link EMU to the issue of German re-unification. Moving beyond these specific, and disputed, circumstances, many point to the positive effects

---

<sup>13</sup> The treaty defined these convergence criteria as follows: (1) the inflation rate had to remain within 1.5% of the three best performing states; (2) the government deficit could not exceed 3% of GDP; (3) the level of public debt had remain below 60% of GDP; (4) interest rates had to remain within 2% of the three best performing states, and (5) countries had to refrain from devaluating their currency within the common exchange rate mechanism for at least two years before joining EMU (see Dyson & Featherstone 1999: 7).

on trade and investment. As an export-led economy with close economic links to its European neighbors, Germany had presumably clear incentives to stabilize exchange rates – even though the evidence on the economic costs and benefits of doing so remains inconclusive (Kaelberer 1996: 32). Despite such economic incentives, opinion polls showed that an overwhelming majority of German voters opposed participation in EMU and the Bundesbank remained an outspoken critic. However, Germany’s political elite was almost entirely in favor of the Euro (Feldstein 1997: 31). This goes for Chancellor Kohl in particular, who saw the fall of the Berlin Wall as a window of opportunity to override domestic opposition and turn his pro-European convictions into reality (van Esch 2012). Adopting a two-level game perspective (Putnam 1988), one might then argue that domestic opposition contributed to the success of German representatives in EMU negotiations: by credibly tying their hands at home, German officials largely succeeded in dictating the terms of monetary cooperation. Thus, they could secure the benefits of monetary cooperation without having to compromise domestic priorities. As the Treaty made the Frankfurt-based ECB seemingly work like the Bundesbank, Germany could hope to continue dominating European monetary policy in the future (Feldstein 1997: 29).

Summing up the road to Maastricht, European monetary integration has always been a political project, rather than one driven solely by economic considerations. And even though Germany has been the dominant player in this process, its influence does not necessarily mirror the country’s political power – understood as power in decision-making, or ‘first face of power’ in the typology proposed by Steven Lukes (2004). Much progress towards monetary integration followed from other European countries’ “voluntary emulation of the German model” (Dyson & Featherstone 1999: 2). In this sense, it was the Bundesbank’s ‘third face of power’, the power to shape perceptions, cognitions and preferences (see Lukes 2004: 28), that helped bring about EMU. The impressive track record of the Bundesbank during the 1970s lent German negotiators much political clout. Due to their favorable bargaining position, the Germans largely succeeded in enshrining the Bundesbank’s principles in the ECB’s mandate. Consequently, the replacement of the Bundesbank by the ECB as the continent’s most important central bank does not simply imply a loss of German power. Rather, the ECB represents “a unique extension of [the Bundesbank’s] structural power over the terms of debate through institutionalization of the ECB on the basis of Bundesbank ideas and practices” (Dyson 2009: 131).

## **2.2 Who joins the club?**

While the signing of the Maastricht treaty certainly cleared the highest hurdle, it was still a long way to go until the ECB was established in 1998. And despite the agreement on what EMU should look like, it long remained unclear whether monetary union would occur or not – and who would be allowed to be part of it. These questions, of course, were not free of conflict either. Sharp disagreements continued to threaten the



ultimate objective of a common currency for another five years. Another continuing feature was Franco-German dominance: as Martin Feldstein wrote in 1997, “it is the French and Germans who will now determine whether or not monetary union will occur” (Feldstein 1997: 28).

Before the progress of prospective EMU members towards meeting the convergence criteria became the dominant topic in the second half of the 1990s, the project had to overcome several challenges. First, the ratification of the treaty proved more difficult than integrationists had hoped, which became clear when a Danish referendum on the treaty failed in June 1992. This blow was soon amplified by a second shock caused by the Bundesbank’s attempts to counter the inflationary implications of German reunification. The Bundesbank’s high interest rates put enormous stress on other members of the ERM. Finally, the ERM was further threatened by intense currency speculation which forced the British Pound and the Italian Lira to leave the ERM in the fall of 1992 – and almost did the same to the French Franc one year later. The ERM could only be saved by radically increasing the fluctuation band (from 2.25 to 15%).

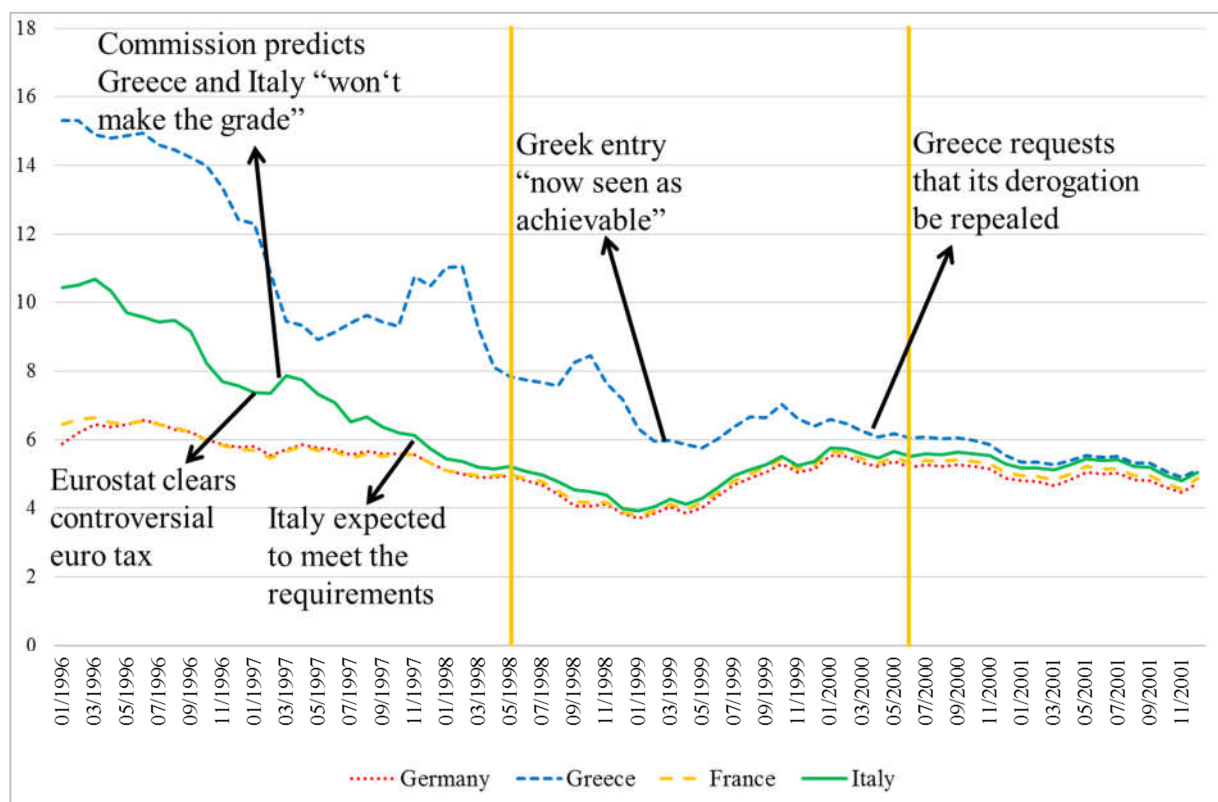
Against this backdrop, the Maastricht euphoria faded quickly. However, the idea of EMU was kept alive despite these difficulties and the second stage of monetary integration began as planned in January 1994 with the creation of the European Monetary Institute (EMI). The EMI, thought to be the predecessor of a future ECB, had the task of preparing the third and final stage, the introduction of the common currency. After the ERM had survived its most severe crises (by a narrow margin), the attention turned to the question of when the third and final stage of EMU would be started – and who should be part of it. The treaty had envisaged two possible ways of transitioning to the Euro: if sufficient economic convergence was achieved by 1996, the EU could decide to start EMU already then. Alternatively, a start in 1999 was the latest date possible. As it was very clear that an earlier date would not be possible, the EU heads of state had to decide by July 1998 to start EMU in 1999 – and vote by qualified majority on which prospective member states fulfilled the convergence criteria (Dyson & Featherstone 1999: 7).

Although it was the driving force behind applying tough criteria for accession, neither Germany itself nor any other country would have qualified for EMU in 1994 (James 2012: 321). At that time, joining the first wave seemed virtually impossible for states like Greece and Portugal, and severely challenging for others, such as Italy (Sandholtz 1993: 18). Up until 1997, only very few states met the accession criteria, but as the beginning of EMU became an ever more realistic prospect, a real race began. Outside of Great Britain and Denmark, governments did not want to find themselves on the sidelines in case the Euro would indeed become a reality in 1999. This prospect spurred astonishing appetite for reform, for instance among Italian political leaders who “became obsessed with gaining entry to stage 3” (Dyson & Featherstone 1999: 8).

In addition to the reform efforts made, the time to make the crucial decision coincided with good times in the global economy. Therefore, the political climate changed towards making EMU more inclusive, rather than an exclusive club (ibid: 9). Due to a correspondingly flexible interpretation of the Maastricht convergence criteria, everybody but Greece and Sweden made the cut in the end (the UK and Denmark had already opted out before). The remaining 11 of 15 EU members were to introduce the Euro by 1999 – and the Greeks pledged to join two years later.

A useful tool to illustrate individual country's progress towards joining EMU is by looking at their government bond yields in relation to the German benchmark. The closer a country found itself to meeting the requirements, the closer yields moved towards the German standard. For example, figure 2.1 below shows the different path of long-term government bonds in Italy and Greece. Those two were the most controversial among the candidate countries, and therefore did not converge to the benchmark of the German Bunds as quickly as other prospective members, including Spain and Portugal. The graph shows that bond yields quickly absorbed news affecting the likelihood of joining EMU, with 'positive' news generally working to move yields closer to those of Germany and other core countries.

Figure 2.1 does not only illustrate the Italian and Greek paths to joining the Euro. It also directs our attention to a phenomenon which would later become a crucial aspect of the Euro crisis as well as its (temporary) resolve through Draghi's promise to do 'whatever it takes'. The graph shows that news events suggesting steps towards EMU membership resulted in dramatically lower borrowing costs for Southern European governments. The more certain membership became, the closer yields moved to those of German bunds – even though their levels of public debt levels remained high. But “why was the different degree of fiscal solidity (or the lack thereof) not ‘priced in’ in government bond prices”, as the ECB's Benoît Cœuré (2012) would ask decades later? After all, the notorious no-bailout clause of the Maastricht Treaty states that EMU members “shall not be liable for or assume the commitments of” another member. One common suspicion is that markets never believed this rule to be credible (e.g. see Pisani-Ferry 2014: 81). According to this hypothesis, markets stopped worrying about the creditworthiness of individual EMU member states once they adopted the euro, assuming that member states would stand in for each other in hard times. Therefore, it was only the *creditworthiness of the Euro area as a whole* that they concerned themselves with.



**Fig. 2.1:** Long-term sovereign bond yields (10 year maturity), 1996-2001

(Source: Eurostat)

02/1997:	<i>"Italian chances of joining the first wave of euro entrants in 1999 were boosted on Friday when Eurostat [...] cleared Rome's controversial euro tax which will help bring its 1997 deficit towards the allowable 3 percent"</i> <sup>14</sup>
04/1997:	<i>The European Commission predicts that Italy and Greece are the only "two of the EU's 15 member-countries that won't make the grade"</i> <sup>15</sup>
11/1997:	<i>"Barring a political crisis, Italy is expected to meet the European Commission's requirements for the euro by the 1999 start-up date."</i> <sup>16</sup>
03/1998:	<i>"most European analysts predict that Italy, too, will end up in the initial Euro wave"</i> <sup>17</sup> <i>Greek Government decides to take the drachma into the European exchange rate mechanism</i>
05/1998:	<i>Council decision (98/317/EC): 11 Member States met the convergence criteria and thus formed the first wave of entrants, Sweden and Greece did not fulfill the criteria</i> <i>"Greek leaders put on a brave face [...] and pledged to become members by 2001"</i> <sup>18</sup>
02/1999:	<i>"the Greek government's target for EMU entry by January 2001 is now seen as achievable [...]"</i> <i>The consensus in the market is that Greece is the next Italy"</i> <sup>19</sup>
03/2000:	<i>Greece requests that the derogation be repealed on 9 March 2000.</i>
06/2000:	<i>Council Decision (2000/427/EC) on including Greece by 1 January 2001</i>

<sup>14</sup> "Italy, Spain move towards EU goal", *Australian Financial Review*, 24 Feb 1997, p. 18.

<sup>15</sup> "Lurching toward Maastricht", *Journal of Commerce*, 29 Apr 1997, p. 5A.

<sup>16</sup> "Italy eager to shift to common currency", *The Philadelphia Inquirer*, 17 Nov 1997, p. A01.

<sup>17</sup> "Italy's brave push for EMU", *Journal of Commerce*, 3 Mar 1998, p. 9A.

<sup>18</sup> "Greece left out of euro launch", *The Globe and Mail*, 4 May 1998, p. B6.

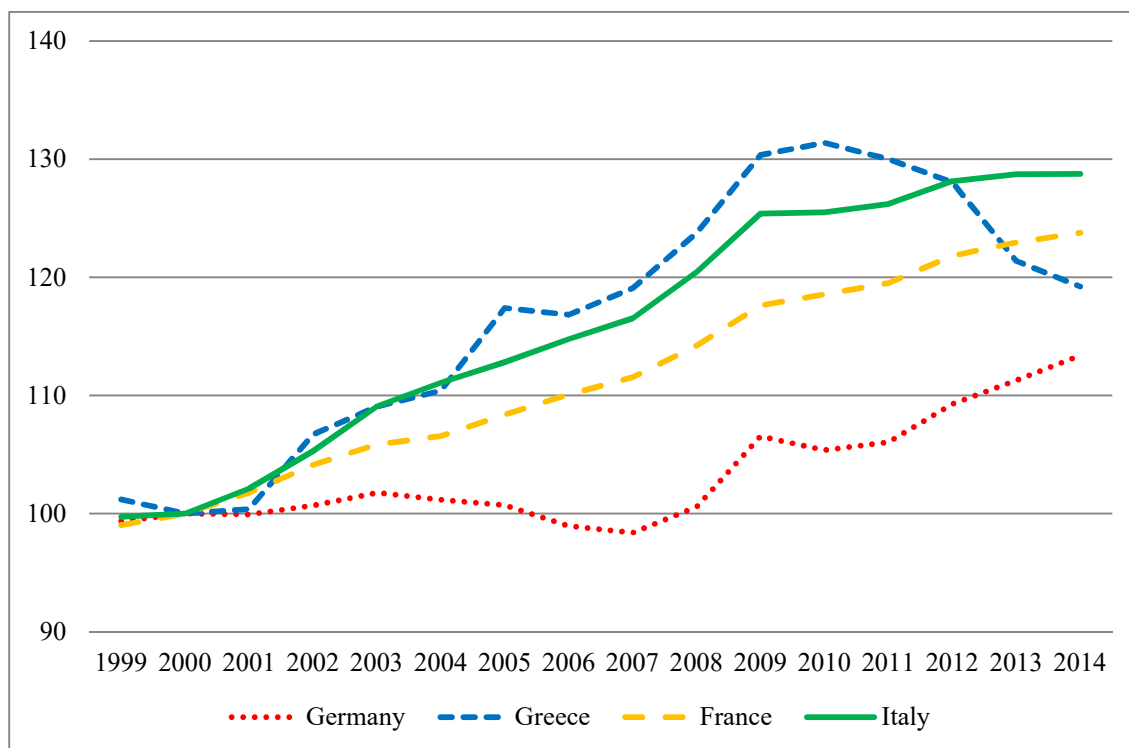
<sup>19</sup> "Italy's success may pave the way for Greece to join EMU", *The Evening Standard*, 12 Feb 1999, p. 43.

## 2.3 The ECB's birth and happy childhood (1999-2007)

Before such problems surfaced, however, the Euro had a much more successful start than its many critics had thought possible. Blessed with being born during an economic expansion, the ECB was able to control inflation and build credibility as a dedicated inflation fighter, while simultaneously keeping an eye on growth. The ECB's early years were characterized by "a historically benign conjunction of factors" (Dyson 2008: 13) such as high rates of global growth driven by rising US consumption and technology-driven innovations. At the same time, the entry of India and China brought about a marked increase in cheap labor, producing downward pressures on prices.

In such a benevolent environment, the ECB managed to keep inflation close to its target and still adopt a growth-accommodating monetary policy stance. Like other central banks at the time it was able to deliver historically low real interest rates, while signaling inflation hawkishness in its communications in order to build credibility. As Kool (2006: 95) points out: "contrary to popular belief and frequent ECB statements, the ECB has not acted as an obsessed inflation fighter. [...] In terms of actual policy, if anything, the ECB has been on the loose side, especially since 2001". The ECB combined hawkish words with dovish deeds. In hindsight, this has even been confirmed by former ECB policymakers such as Jürgen Stark. Without explicitly mentioning the Eurosystem, he claimed that "insufficient medium-term orientation in the monetary policy frameworks led to too loose a monetary policy stance in many advanced economies and contributed [...] to exacerbating pre-crisis financial excesses (Stark 2011). Particularly after 2001, interest rates were too low from the perspective of almost all Euro Area countries, particularly in the southern periphery. "The actual EUEONIA has been at the right level only for Germany" (Kool 2006: 90). Germany, then considered 'the sick man of Europe', benefited particularly from low interest rates, while they fueled credit-based property booms elsewhere, most notably in Spain. Yet, despite being so loose, the ECB recorded an average of 2.05% annual inflation between 1999 and 2006, and successfully anchored medium-term inflation expectations in line with its target.

Whether the ECB's happy-go-lucky childhood days are to be characterized as a success, then, depends very much on what you look at. Apart from (almost) meeting its inflation target and managing a remarkably smooth transition when introducing the Euro, the common currency also significantly fostered trade among members. By removing exchange-rate risks, lowering transaction costs, and enhancing price transparency, the Euro effectively promoted cross-border business activities. While the exact numbers are disputed, very substantial trade effects between 5 and 15% were reported for the first decade (Dyson 2008: 24). The Euro also attracted new countries and membership grew from 11 to 16 during the first decade, even though Denmark, Sweden, and the United Kingdom remained on the outside.

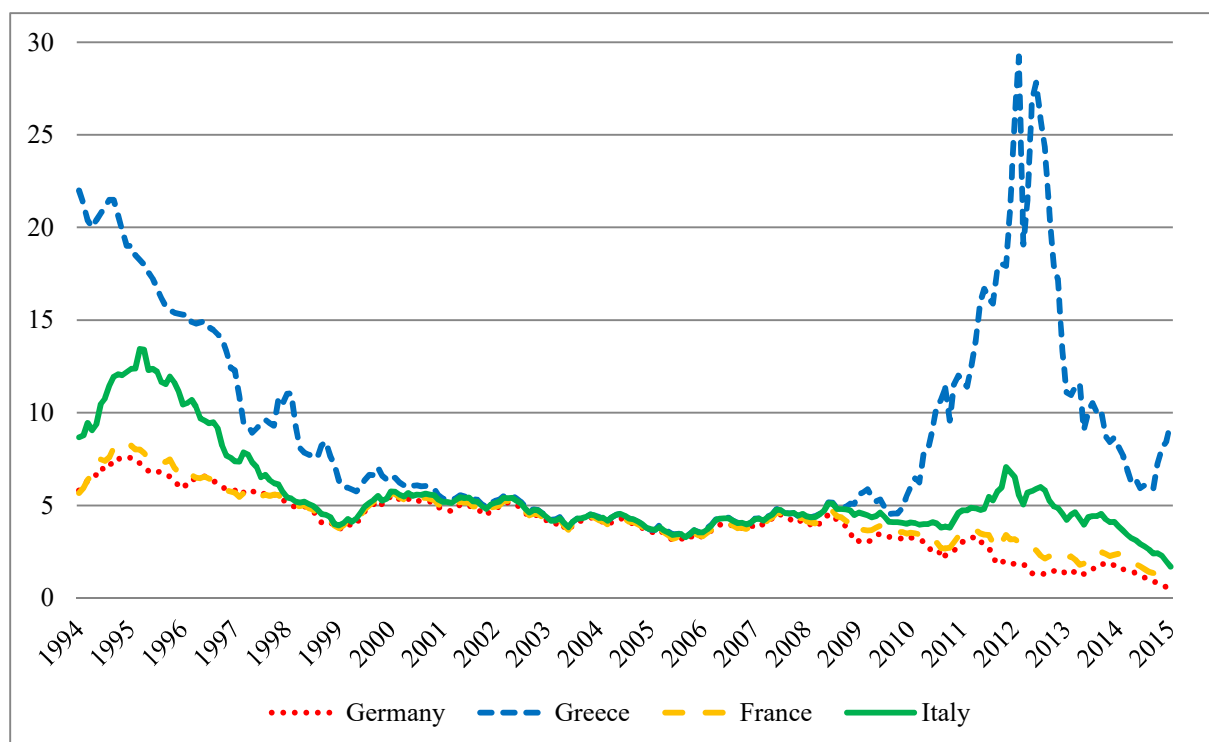


**Fig. 2.2:** Nominal unit labor costs (total economy, 2000=100), 1999-2014  
(Source: European Commission, AMECO database)

Yet other developments cast a shadow over the ECB's childhood, even though they went largely unnoticed at the time. With the benefit of hindsight, the ECB's loose policy has been blamed for having contributed to asset-price bubbles in the currency area's periphery. In many areas, the common currency did not bring about the economic convergence the 'monetarist' camp had hoped for. Countries in the Euro area continued to display marked differences regarding growth, inflation, and labor productivity. Figure 2.2 above indicates that the Euro even caused divergence rather than harmonization in labor unit costs – a development that would prove painful in the crisis years to come. German competitive disinflation through wage restraint (dubbed 'internal devaluation') coexisted with credit expansion and consumer-led growth in peripheral countries (Dyson 2008: 33). In this sense, the ECB's single monetary policy produced asymmetric impulses for different member states (Scharpf 2011).

While all these problems that would come to haunt the ECB later are common knowledge now, they remained largely under the radar back then. And this goes not only for monetary policymakers, but for financial markets as well. The ECB seemingly focused on averages across the currency area instead of the situations of individual countries. Specifically, it neglected the inflation of housing and other asset prices in some peripheral countries (such as Ireland and Spain), because the ECB, like other monetary institutions, targets consumer price inflation. Investors did not appear concerned either, failing to exert market discipline during the Euro's early years. Figure 2.3 shows that divergent developments in different Eurozone countries – including

variables closely related to creditworthiness such as budget deficits and levels of public debt – were not reflected in these countries’ borrowing costs between 2000 and 2008 at all.



**Fig. 2.3:** Long-term sovereign bond yields (10 year maturity), 1994-2015  
(Source: Eurostat)

This all changed, of course, when the crisis struck and the Euro’s happy childhood was superseded by particularly challenging teenage years (Enderlein & Verdun 2009). The financial crisis following the collapse of Lehman Brothers first forced the ECB to prevent a complete financial meltdown through liquidity operations of unforeseen scale, and then to confront the deep recession the crisis caused. The ‘Great Recession’ saw the ECB leap into the unknown, when interest rates approached zero and new instruments had to be invented to prevent the recession from worsening and a deflationary spiral from inflicting even more harm. The ECB was not alone in confronting these challenges, but rather one of many central banks struggling with the ‘new normal’ in monetary policy. What made the ECB’s situation particularly dire was the fact that markets woke up to the Eurozone’s specific problems they had ignored for so long. When the incoming Greek government announced in 2009 that the budget deficit it inherited was much worse than the previous government had claimed (at a staggering 15.7 instead of 6 percent), it set an avalanche in motion. Within the timespan of only a few months, investors’ fears about the sustainability of governments’ finances spread from one Eurozone country to another, threatening their access to bond markets. Thus, the ECB found itself not only fighting a recession of historic dimensions with new and untested instruments; it also had to confront the very real prospect of a disintegrating Eurozone.

I provide a detailed analysis of how the ECB responded to this grim situation in chapter 6, discussing the policies it adopted and, crucially, what it chose *not* to do. Before I turn to empirical detail, however, the following chapter 3 offers important background information as to how the ECB arrives at policy decisions and which individuals inside the Eurosystem can influence this process. Chapters 4 and 5 follow to develop my theoretical approach to central bank decision-making which emphasizes policymakers' economic beliefs, before I return to the question of how these beliefs shaped the decisions the ECB actually took.





### 3. POLICYMAKING INSIDE THE ECB: WHO GOVERNS?

*“We do not disclose the details of our work. It is up to you to guess.”*

Mario Draghi, 6 Sep 2012

If we are to understand how policymakers influence ECB decisions, we need to understand these decisions are made first. Apart from some core principles, however, our knowledge of the ECB’s decision-making process is surprisingly limited. The two most important of these principles arguably are ‘one head, one vote’ and ‘centralized decision-making, decentralized implementation’. As one might expect, both principles do not tell the whole story. What is more, they are not entirely accurate. Not only are the decentralized units (national central banks) involved in preparing ECB’s decisions; nobody believes every member of the ECB’s Governing Council (GC) to be equally influential either. In order to paint a more realistic picture of how the ECB arrives at decisions, I thus contrast its formal and informal decision rules below. While the section of formal rules relies mostly on official documentation, the section on informal rules is informed by academics’ and journalists’ accounts as well as a number of semi-structured expert interviews I conducted between 2014 and 2017.

#### 3.1 Formal and informal decision rules

Until German policymakers publicly voiced their opposition to some particularly controversial decisions in 2012, ECB officials claimed they *always* reached decisions by consensus. In ECB-speak: as a “collegial body”, the GC “practices consensus voting” (Moutot et al. 2008: 40). According to insiders, ‘consensus voting’ means that no formal votes are taken. Yet this does not imply perfect agreement. Rather, it becomes clear during discussions whether ‘consensus’ means unanimity, a comfortable or only a small majority. It is also possible that individual policymakers state their divergent preferences but accept the ‘consensus view’ nevertheless.<sup>20</sup> In short, consensus can mean many things. But since votes are not formally taken, the ECB is simply unable to publish detailed voting records like many other central banks. The exact composition of preferences in the GC is therefore likely to remain in the dark even when the 30-year publishing ban of GC minutes expires. What is clear, however, is that the ECB statute explicitly envisages a voting scheme.

On paper, the decision-making procedures of the ECB resemble those of many other central banks. Monetary policy is set by a committee (the GC) in which the six members of the ECB’s Executive Board (EB) as well as all national central bank (NCB) governors of Eurosystem countries have a seat (Jung et al. 2010). Very much like the Federal Reserve System in the US, the Eurosystem’s main decision-making body combines supranational with intergovernmental elements. Before I turn to the division of labor between these two elements, the official decision rule of the GC deserves closer inspection.

---

<sup>20</sup> Interview (20) with senior ECB staff in Frankfurt, 25 Sep 2015.

### 3.1.1 Governing Council Decisions: one head, one vote?

Since its inception, the ECB's formal decision rule has been simple majority voting under the principle of 'one head, one vote'. The idea behind granting France and Germany the same voting power as Luxemburg and Finland was to increase the independence of national representatives. As one of the Euro's architects explained this reasoning: "*If you have as many votes as your GDP, you are not independent, but represent your GDP, your country*" (Padoa-Schioppa 1996: 7). However, the fact that the bigger member states accepted this egalitarian voting scheme, Padoa-Schioppa admitted, "verges on the miraculous" (ibid). Possibly, this miracle reflects that nobody assumed the French and the Maltese central bank governor to actually be equally influential in practice. If no formal votes are taken and policies are developed through deliberation (as 'consensus voting' suggests), some voices may find more attentive ears than others. ECB expert David Marsh (2015) pokes at this discrepancy between formal rules and actual practices by stating that "in the shadowy world of European Central Bank decision-making, all central banks are equal — but some are more equal than others."

Members of the Governing Council can enjoy outsize influence because of the economy they represent (as Marsh seems to suggest), but also by virtue of their individual profiles. Eurozone governments are arguably well advised to appoint a governor who is highly respected within central banking circles, if they wish to have an influential voice inside the GC. Arguably, this is the most immediate way of exerting influence. For instance, Athanasios Orphanides as central bank governor of Cyprus represented one of the Eurozone's smallest members. Yet he played "an influential role on the ECB's 22-strong governing council because he worked previously at the US Federal Reserve where he became an expert on the 1930s Great Depression and Japan's experience of deflation in the 1990s,"<sup>21</sup> as the *Financial Times* pointed out. In the world of central banking, such credentials serve as important reputational resources.

The formal rule of '*one head, one vote*' has recently been slightly amended, too. With the accession of Lithuania as the Eurozone's nineteenth member in 2015, a rotation scheme has been put in place, which gives different groups of countries slightly different voting frequencies. In every monetary policy meeting, four NCB governors will not be allowed to cast a formal vote. Those include one out of the five largest countries in terms of the ECB's capital key (Germany, France, Italy, Spain, and the Netherlands) and three of the remaining 14 governors (see ECB 2009).<sup>22</sup> The six members of the ECB's executive board, to the contrary, retain their permanent vote.

---

<sup>21</sup> "ECB should hold course on rates, says Orphanides", *Financial Times*, 21 Dec 2009.

<sup>22</sup> This implies a voting frequency of 80% for the five biggest members comprising Group 1 and a voting frequency of 79% for the other countries in Group 2 in a setting with 19 national governors. Should the number of national governors increase in the future, however, only the voting frequency of Group 2 will decrease further (ECB 2009: 92). If EMU membership should exceed 21 countries in the future, there will be three different groups of members with varying voting frequencies, further complicating the formal decision rule.

Originally the rotating scheme should have come into force much earlier, when the sixteenth member joined EMU (Slovakia in 2009). However, the GC decided in 2008 to delay the implementation. Whether the scheme fundamentally changes how the ECB makes decisions is doubtful. After all, every member will continue to participate in all meetings and will retain the right to speak. If ECB decisions are indeed mostly determined through deliberation rather than voting, then the change should be fairly meaningless. However, both the decision to delay the implementation of the rotation scheme in 2008 and to finally start implementing it in 2014 were hotly debated, casting doubt on the presumably deliberative and consensual nature of ECB decision-making.

### *How could we know? Insights from other central banks*

Since the ECB refrains from publishing voting records, it is impossible to establish empirically whether ‘one head, one vote’ applies in practice or whether the preferences of particular policymakers’ carry disproportionate weight. Skepticism about the absence of national bias in ECB decision-making has inspired numerous studies which model ECB decisions based on theoretical assumptions (see e.g. Heinemann & Huefner 2004; Kool 2006; Hayo & Méon 2013). However, such studies suffer from the absence of reliable data. While the ECB has begun to publish ‘accounts’ summarizing monetary policy meetings in 2015, analysts still cannot access detailed minutes. Furthermore, these ‘accounts’ contain neither individual statements nor votes. The rationale behind this is to protect ECB officials and (most importantly) national central bank governors from scrutiny,<sup>23</sup> which presumably makes it easier for them to adopt a pan-European perspective instead of representing their domestic constituencies.<sup>24</sup> Therefore it remains impossible to know with certainty which GC members argued and voted for which policy and why.

Academics interested in voting behavior within central bank committees have therefore looked for insights elsewhere. Central banks offering extensive minutes and voting records for analysis include, among others, the US Federal Reserve, the Bank of England, the Bank of Japan, the National Bank of Poland and the Swedish Riksbank. These institutions have provided a wealth of data, making analyses of individual policy preferences and voting patterns in monetary policy committees possible. As the insights of such studies may apply to ECB’s decision-making as well, I summarize their most important findings below.

First, monetary policy deliberations and voting are “characterized by considerable heterogeneity among policymakers” (Jung 2013: 146). The Bank of England’s monetary policy committee (MPC), for instance, “has been divided about two-thirds of the time”

---

<sup>23</sup> “New ECB minutes to provide detail on QE debate, but no names”, *Reuters*, 18 Feb 2015.

<sup>24</sup> Adolph (2013) provides support for this view, suggesting that central bankers may be more tempted to signal their ‘usefulness’ to constituencies and ‘shadow principals’ (past and potential future employers), when their individual votes and deliberations are made public.

(Hix et al. 2010: 731) since 1997. When confronted with the same information about the state of the British economy, why do members of the MPC disagree on the appropriate interest rate so much? Hix et al. (2010) and most other studies focus on inflation preference differentials (i.e. the classic dichotomy between ‘hawks’ and ‘doves’) as drivers of voting behavior. However, Hansen et al. (2013) show that voting are also driven by heterogeneous assessments of the economy. This implies that even central bankers with similar preferences may vote differently because they differ about how they perceive the state of the economy.

Second, policymakers’ origins matter. This is suggested by studies of the Fed’s Open Market Committee (FOMC). Like the Eurosystem, the Federal Reserve System is a hybrid organization designed to represent both national (supranational) and regional (national) concerns. In their classic study of the FOMC, Meade and Sheets (1995) show that individual Fed policymakers disproportionately take unemployment developments of their home states into account. Somewhat surprisingly, this effect is even stronger for national Board members than for the presidents of the regional Reserve Banks – suggesting that home bias is not so much a matter of institutional representation but rather related to policymakers’ regional identities (see Meade & Sheets 1995: 662).

In sum, policymakers vote differently because they differ in several aspects: their origins, their perception of economic conditions, and their preferred inflation hawkishness. If this is true elsewhere, we may expect similar dynamics to be at play in the ECB’s policy committee. Indeed, as ECB policymakers serve a supranational central bank which governs a very heterogeneous currency union, one might expect them to differ *even more*. After all, the Eurozone consists of heterogeneous countries, with different business cycles and different economic problems. Yet, in the absence of voting records or minutes revealing the views of individual policymakers, how are we to know?

### ***Assumptions about ECB politics: does size matter?***

One way of coping with the lack of reliable data is proposed in Hayo & Méon (2013). Attempting to identify a decision rule that best simulates the ECB’s actual interest rate decisions between 1999 and 2006, the authors simulate five different scenarios. They find that the scenario which resembles actual decisions most closely is one “in which individual members of the Governing Council follow national objectives, bargain over the interest rate, and their weights are based on their country’s share of the zone’s GDP” (Hayo & Méon 2013: 135). This suggests that ECB’s policymakers take the needs of its bigger members – most notably France and Germany – disproportionately

into account (for similar arguments see Kool 2006; von Hagen & Brückner 2003).<sup>25</sup> In this light, Padoa-Schioppa's vision of ECB decisions being taken independent of national interests may account to little more than wishful thinking.

To sum up the key findings from studies of other central banks as well as assumptions-based models of ECB decision-making, two insights are of particular relevance for my argument:

1. 'One head one vote' does in all likelihood not represent a realistic model of actual ECB decision-making.
2. Policymakers' origins and identities matter – and this holds true not only for the governors of national central banks, but for members of the ECB's executive board as well.

### 3.1.2 The agenda-setting power of the Executive Board

The six-head Executive Board (EB) is undoubtedly the power center of the Eurosystem. It consists of the ECB President, the Vice-President and four other members, all of which are appointed for one non-renewable term of eight years by the European Council. And while all six EB members have only one vote in the GC, they have considerable agenda-setting power because they prepare and manage GC meetings (McNamara 2006b: 177). This goes for two individuals in particular: the President who chairs the meetings, and the chief economist who presents an assessment of the Eurozone economy, projections of future developments, and – crucially - tables the policy options to be discussed by the committee.

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
President	Wim Duisenberg (NL) 06/1998-10/2003					Jean-Claude Trichet (F) 11/2003-10/2011					Mario Draghi (I) 11/2011-10/2019												
Vice-President	Christian Noyer (F) 06/1998-05/2002			Lucas Papademos (GRE) 06/2002-05/2010					Vitor Constancio (POR) 06/2010-05/2018														
Board member / chief economist	Otmar Issing (GER) 06/1998-05/2006					Jürgen Stark (GER) 06/2006-12/2011*					Asmussen 2012-13*		Sabine Lautenschläger (GER) 01/2013-12/2020										
Board member / chief economist	Sirikka Hämäläinen (FIN) 06/1998-05/2003			Gertrude Tumpel-Gugerell (AUT) 06/2003-05/2011					Peter Praet (BEL) 06/2011-05/2019														
Board member	Eugenio Domingo-Solans (ESP) 06/1998-05/2004					José Manuel González-Páramo (ESP) 06/2004-05/2012					Yves Mersch (LUX) 12/2012*-11/2020												
Board member	Tommaso Padoa-Schioppa (I) 06/1998-05/2005					Lorenzo Bini Smaghi (I) 06/2005-12/2011*					Benoit Coeuré (F) 01/2012-12/2019												
	France					Germany					Italy					Spain							

**Fig. 3.1:** ECB Executive Board members and their terms in office (Source: ECB)

Mirroring the EB's central role in the ECB's decision-making process, the appointment process of board members has become more politicized over time. Of course, this is particularly true for the selection of the ECB President. However, the nomina-

<sup>25</sup> Yet it needs to be considered that the ECB bases its decisions on Eurozone averages, and economic developments in, say, France or Spain logically impact these averages more than data from smaller economies such as Cyprus would. In this light, the findings of Hayo & Méon (2013) seem less surprising.

tion of other board members has led to diplomatic tensions between European governments as well, usually mirroring conflicts about national representation. While a strict application of the formal ‘one person, one vote’-rule would imply that small countries are too powerful within the ECB (see Berger & De Haan 2002) there is an informal rule about national representation in the EB which seems to counter such concerns: four out of the six positions at the EB are always occupied by the four biggest member states, namely Germany, France, Italy, and Spain (see figure 3.1 above).

This informal rule can lead to ugly rows. A case in point is the conflict between the French President Nicolas Sarkozy and the Italian Prime Minister Silvio Berlusconi in 2011. After Mario Draghi had been confirmed as Trichet’s successor, a situation loomed in which two out of six seats were taken by Italian citizens – Mario Draghi and Lorenzo Bini Smaghi – whereas France would walk away empty-handed. Needless to say, this was not what Sarkozy wanted. He insisted that “there is an unwritten rule that everyone knows well, which is that among the six members of the ECB board, it’s in the ECB’s interest that all big countries are represented” – adding that “two Italians on the six-member board is not a very European solution.”<sup>26</sup> Berlusconi had reportedly promised Sarkozy that Bini Smaghi would resign and make room for a French replacement in exchange for Sarkozy’s support of Draghi’s presidency. Bini Smaghi, however, had different plans. He initially insisted on the ECB’s statutory independence according to which ECB board members must not take orders from politicians. Yet his resistance would not last long. After a few months of diplomatic tensions between Paris and Rome, Bini Smaghi gave up his post and made way for Frenchman Benoît Coeuré in November 2011 – a move which restored diplomatic ties but called the political independence of ECB policymakers into question.<sup>27</sup>

The six members of the executive board divide among themselves the responsibilities for managing the ECB’s various departments, called Directorates-General (DGs). Traditionally, the most relevant units for the formation of monetary policy are DG-Economics, DG-Research, and DG-International & European Relations (Issing 2008). As a consequence of the financial crisis and the adoption of unconventional policies, DG-Macprudential Policy and Financial Stability and, in particular, DG-Market Operations have also gained importance.<sup>28</sup> While all these DGs have their role to play in the preparation of ECB decisions, DG-Economics is the monetary policy powerhouse – both in terms of its size and its prominent role in the decision-making process.<sup>29</sup> The member of the EB who is responsible for DG-Economics, currently Peter Praet, is therefore often called the ECB’s “chief economist”. Officially, this position does not exist. The financial press awarded the title of ‘chief economist’ informally to Otmar

---

<sup>26</sup> “Draghi ECB Succession Deal Pressures Bini Smaghi to Resign”, *Bloomberg*, 17 June 2011.

<sup>27</sup> “Bini Smaghi quits ECB after French pressure”, *Financial Times*, 10 Nov 2011.

<sup>28</sup> Interview (20) with senior ECB staff in Frankfurt, 25 Sep 2015.

<sup>29</sup> Interview (23) with ECB manager in Frankfurt, 30 Sep 2015.

Issing in the ECB's first years because Issing's portfolio included "much of [the ECB's] intellectual firepower",<sup>30</sup> namely both DG-Economics and DG-Research (see Ch. 3.2). And even though both his successors in heading the Economics department, Jürgen Stark and Peter Praet, did not receive the same powerful portfolio combination, the term continues to be used.

### 3.1.3 The role of staff

The independent influence of Eurosystem staff on specific decisions of the Governing Council is difficult to assess. What is possible, however, is to identify how staff input is channeled into the decision-making process. The main mechanisms here are: economic forecasts, policy notes, EB briefings, and research output. The most visible staff input clearly are the quarterly forecasts prepared by ECB staff (called Macroeconomic Projections), which describe the economic outlook for the euro area for the following three years.<sup>31</sup> In particular, they include numerical forecasts of GDP and inflation, which are widely reported in the media and extensively discussed in the context of ECB press conferences.

Staff presentations for the Executive Board represent another important channel of influence. The briefings usually take place two days ahead of monetary policy meetings and are typically given by the Heads of Division of the most policy-relevant divisions of DG-Economics, DG-International, and DG-Research, albeit presentation time is occasionally shared with other senior staff.<sup>32</sup> As I describe in greater detail below, however, the way ECB leaders engage with the analyses and arguments offered by Eurosystem staff depends on their leadership style, which has reportedly changed quite considerably between different presidencies.

ECB employees can also leave their mark by preparing policy proposals, memos, and research notes. While such policy proposals and memos are often demanded by management, the way they are written might still have clear policy implications. Occasionally, they are the result of staff initiatives, too. The final product is a typically a heavily edited group effort. However, there is some path dependency in these documents, implying that those writing the first draft are very likely to influence the final product through their decisions and priorities about the document's scope and structure.<sup>33</sup> In order to influence policy, then, a proposal has to be convincingly framed in terms of the ECB's official goals. This means that a proposed policy needs to be framed as a means to achieve medium-term price stability across the Euro area – even if the policy

---

<sup>30</sup> "The ECB's 'chief economist'", *Financial Times*, 12 Sep 2011.

<sup>31</sup> see <https://www.ecb.europa.eu/pub/projections/html/index.en.html>

<sup>32</sup> These divisions include in particular the Divisions for Fiscal Policy, Output and Demand, Prices and Costs, Capital Markets and Financial Structure as well as Monetary Analysis in DG-Economics. The two units providing input from the perspective of DG-International are the divisions for External Developments and International Policy Analysis. Interview (24) with ECB manager in Frankfurt, 2 Dec 2015.

<sup>33</sup> Interview (07) with ECB official in Frankfurt, 6 Jan 2015.

may be motivated by other objectives (e.g. unemployment problems in Portugal). No matter what the real motivations behind a proposal are, it has to be justified by a credible theory of how it contributes to price stability in the currency union.<sup>34</sup> A cynical reading of this is that the ECB's mandate may occasionally influence its rhetoric more than its actual policies.

Finally, there is the ECB's research output. ECB staff makes contributions to the state of the art in monetary economics through both in-house publications and peer-reviewed academic articles. The impact of this 'research channel' is arguably even harder to gauge because it primarily aims at influencing broader academic debates and thus enhance the ECB's credibility as a research powerhouse. Eventually, however, these broader debates may have an effect on the reasoning of officials in the Governing Council. In this way, the ECB's in-house research may contribute to ECB policy-making – albeit indirectly and with potentially long time lags.<sup>35</sup>

### ***National representation among ECB staff: still the European Bundesbank?***

Among the main reasons why the ECB has often been called 'European Bundesbank' is its location. Because the ECB was established in Frankfurt, where the German Bundesbank resides, it naturally attracted many applications from Bundesbank staff. This is not only due to proximity. Rules for compensation may have played a role as well. While pay at the ECB is very attractive from the perspective of a Bundesbank employee (Dyson 2009: 133), this is less the case for French central bankers, for instance.<sup>36</sup> Also, Bundesbank staff can join the ECB without losing their right to previously acquired benefits in case they return to the Bundesbank at a later stage.<sup>37</sup> In a way, then, the Bundesbank's internal rules have made the transfer of its employees to the ECB an attractive career choice – and thus supported a strong presence of former Bundesbank employees inside the ECB.

Due to all this Germany is overrepresented among ECB staff. While the ECB does not publish staff statistics by country of origin, the Official Directory of the European Union documents that Germans hold many key positions at the managerial level.<sup>38</sup> In their systematic analysis of national representation at the ECB from 1999 to 2008, Badinger & Nitsch (2014) report a "disproportionately narrow spread of national representation" in the ECB's top-level management. And this matters beyond top-level management because ECB managers may tend to recruit from their personal networks.<sup>39</sup> In line with this, Badinger & Nitsch (2014: 20) find "evidence that strong national representation at a particular management level is typically associated with

---

<sup>34</sup> Interview (07)

<sup>35</sup> Interview (23)

<sup>36</sup> Interview (13) with ECB official in Frankfurt, 9 Jan 2015.

<sup>37</sup> Interview (08) with former senior Bundesbank official in Frankfurt, 6 Jan 2015.

<sup>38</sup> see [http://europa.eu/whoiswho/pdf/EUWhoiswho\\_10\\_EN.pdf](http://europa.eu/whoiswho/pdf/EUWhoiswho_10_EN.pdf) [last accessed 27 Apr 2017]

<sup>39</sup> Interview (07)



similarly strong national presence at the subordinate management layer”. Regarding German representation, this is particularly the case at the ECB’s fiscal policy division in DG-Economics, where German citizens account for the largest share of employees by far.<sup>40</sup>

Does nationality matter, however? When asked for determinants of divisions among ECB staff, some respondents held that disagreements about policy are better explained by intellectual diversity than by country of origin.<sup>41</sup> For instance, German and Italian representatives are often closely aligned. Thus, Italian central bankers may be better understood in terms of their educational background – for example as economically conservative ‘Bocconi Boys’ (Helgadóttir 2016) – than in terms of a presumably loose monetary policy stance associated with Southern countries. Others, however, stress that a north/south divide exists within the ECB, particularly with regard to fiscal policy issues.<sup>42</sup> In any case, it is very difficult to disentangle these factors, as categories of education and origin often overlap: a central banker from a creditor country with a presumably conservative ‘stability culture’ is likely to have received her professional training at a conservative department of economics, too.

### **3.1.4 Channels of influence for national central banks**

A second famous Eurosystem principle – namely that of ‘centralized decision-making, decentralized implementation’ – deserves some scrutiny as well. While the principle generally describes the division of labor between the central hub (the ECB) and the decentralized spokes (the NCBs) well, it should not lead us to assume that participation in the GC is the only access point for NCBs in the decision-making process. Rather, decisions are prepared in close cooperation between ECB and NCB staff within technical committees and subcommittees (Jung et. al. 2010). The Eurosystem’s committee structure has evolved over time and by now mirrors the ECB’s organizational structure almost perfectly: most of the ECB’s DGs have a committee to chair (DG-International: International Relation Committee (IRC); DG-Market Operations: Market Operations Committee (MOC); DG-Statistics: Statistics Committee etc.). These subcommittees play an advisory role and should assist the Executive Board and the Governing Council in its decisions by providing expert opinions and technical advice.

By far the most important and politicized among the committees is the Monetary Policy Committee (MPC).<sup>43</sup> While other committees are better thought of as fora of exchange in which ECB and NCB staff work together cooperatively, this is less true for the MPC. Mirroring the tough choices the ECB had to make throughout the crisis, the

---

<sup>40</sup> *ibid.*

<sup>41</sup> Interviews (07), (13)

<sup>42</sup> Interviews (02), (08)

<sup>43</sup> The ECB’s MPC is a technical subcommittee and thus should not be confused with the Monetary Policy Committees of other central banks, which are the equivalents of the ECB’s Governing Council.

work in the MPC has become increasingly conflictual and even nurtured personal animosities.<sup>44</sup> The influence of individual NCBs in the committee structure is a function of several aspects, among which one stands out: manpower. For instance, the Bundesbank's sheer size<sup>45</sup> allows its employees to specialize on selected aspects of monetary policy. Therefore they often become highly knowledgeable experts in those areas. As smaller NCBs often do not have the organizational capacity to develop such specialized expertise, the Bundesbank representatives often appear particularly well prepared in committee meetings, giving their arguments additional weight.<sup>46</sup>

<b>National central bank</b>	<b>Capital key %</b>	<b>Paid-up capital (€)</b>
Deutsche Bundesbank, <i>Germany</i>	18.0	1,948,208,997.34
Banque de <i>France</i>	14.2	1,534,899,402.41
Banca d'Italia, <i>Italy</i>	12.3	1,332,644,970.33
Banco de España, <i>Spain</i>	8.8	957,028,050.02
De Nederlandsche Bank, <i>Netherlands</i>	4.0	433,379,158.03
Banque Nationale de Belgique, <i>Belgium</i>	2.5	268,222,025.17
Bank of <i>Greece</i>	2.0	220,094,043.74
Oesterreichische Nationalbank, <i>Austria</i>	2.0	212,505,713.78
Banco de <i>Portugal</i>	1.7	188,723,173.25
Suomen Pankki, <i>Finland</i>	1.3	136,005,388.82
Central Bank of <i>Ireland</i>	1.2	125,645,857.06
Národná banka Slovenska, <i>Slovakia</i>	0.8	83,623,179.61
Lietuvos bankas, <i>Lithuania</i>	0.4	44,728,929.21
Banka Slovenije, <i>Slovenia</i>	0.3	37,400,399.43
Latvijas Banka, <i>Latvia</i>	0.3	30,537,344.94
Banque centrale du <i>Luxembourg</i>	0.2	21,974,764.35
Eesti Pank, <i>Estonia</i>	0.2	20,870,613.63
Central Bank of <i>Cyprus</i>	0.2	16,378,235.70
Central Bank of <i>Malta</i>	0.1	7,014,604.58

**Table 3.1:** National contributions to the ECB's capital key (Source: ECB)

Beyond this, interviewed ECB staff suggested that German voices generally find more attentive ears than others, even at the working level. This may also be due to the constituency they represent – implicitly speaking for the Euro area's biggest economy with the largest share of the population and the biggest contribution to the ECB's capital (see Table 3.1 above).<sup>47</sup> Of course, adopting a Euro area-wide perspective actually requires ECB staff and policymakers to pay more attention to the economic situation of the currency area's bigger countries. It is perhaps stating the obvious, but the simple

<sup>44</sup> Interview (14) with Bundesbank manager in Frankfurt, 21 Sep 2015.

<sup>45</sup> At the end of 2012, the Bundesbank had 10,825 employees, while the ECB employed a meagre 1,638. The other main NBCs of the Eurosystem reported a staff size of 13,012 (France), 6,982 (Italy), 2,684 (Spain), 1,930 (Greece), and 1,672 (The Netherlands), see The Franklin Templeton Investments Central Bank Directory 2014 (Horakova & Jordan 2014).

<sup>46</sup> Interview (08); Interview (14)

<sup>47</sup> Interview (02) with ECB official in Frankfurt, 19 Aug 2014.

fact that inflation and growth dynamics in Germany have a much bigger impact on Eurozone aggregates than developments in Estonia or Cyprus is easily overlooked.

Beyond its manpower and the constituency it represents, there are further reasons to believe that the Bundesbank plays a particularly important role within Eurosystem committees, prestige and tradition being amongst them. In terms of monetary policy-making the Bundesbank is de facto the ECB's predecessor. Thanks to its dominating position in the European Monetary System (EMS), the German Bundesbank was regarded as "the bank that rules Europe" (Marsh 1992). This obviously changed with the creation of the Eurosystem. Yet generations of European central bankers were socialized while their institutions were shadowing the Bundesbank's decisions and changed domestic policies following the German example. Even though the ECB "supplanted the Bundesbank as the leading central bank on the European continent" (Howarth 2009: 87) almost two decades ago, its dominating position in the past may still lend Bundesbank arguments particular credibility within Eurosystem committees.

### ***Media Pressure: breaking the ranks***

National central banks may choose to influence ECB decisions not through internal committees but by creating pressure from outside. One way to do so that has arguably gained importance in the crisis is the attempt to influence public opinion through media interventions. While this was long seen as a violation of the ECB's golden rule of collegial and consensual policymaking, this seems to have become the weapon of choice for the German Bundesbank – especially after the ECB started buying government bonds (see Chapter 6). The Bundesbank's strategic reorientation towards this channel is arguably the main reason why media reports have focused so much on tensions between the ECB and the Bundesbank in their coverage of Eurosystem monetary policy. Another may be that it simply is a compelling story, given the Bundesbank's status as implicit predecessor of the ECB and Germany's notorious inflation fear. Therefore, other dissenting voices – from Estonia, Austria, the Netherlands, Finland, or Luxemburg – were all too easily overlooked.

Yet it is true that the German Bundesbank actively seeks media attention. It is particularly outspoken and consistent in its communication. While other NCBs known for a rather hawkish stance often share the German position, the Bundesbank's communication strategy is focused on clear, simple and consistent messages. This is due to the strong institutional theoretical framework the Bundesbank has developed. While this well-established framework serves as a 'moral construct' and guideline to Bundesbank representatives,<sup>48</sup> other NCBs don't have such a strong theoretical framework. They are more flexible – or, to phrase it more negatively: less consistent – in their positions. Bundesbank officials also focus more on shaping public opinion, while governors of

---

<sup>48</sup> Interview (07)

other NCBs are not as eager to talk to the press.<sup>49</sup> This focus on voice by Bundesbank officials can be seen as a strategic reorientation after EMU: having lost its autonomy to set monetary policy, the post-euro Bundesbank has focused on its special role as ‘guardian’ of stability in Europe – notably through communication (Dyson 2009: 135). All this may explain why German opposition gains more media attention than, say, dissent from Estonia.

### 3.2 The long legacy of Otmar Issing

Yet criticism of the ECB’s policies during the crisis did not only come from the corners of active Bundesbank officials and German politicians. Among the voices calling for caution was one that probably carried more weight than any other, at least from the perspective of the ECB’s headquarters in Frankfurt: the voice of Otmar Issing, the institution’s first chief economist. It was without exaggeration that Mervyn King called Issing “*the intellectual force behind the first decade of the European Central Bank*” and Martin Wolf saw him as the “*architect of the European Central Bank’s monetary policy*”. Indeed, while serving as its chief economist, Otmar Issing had been the key figure in developing the ECB’s monetary policy strategy.

Knowing about the challenging task of introducing a new, supranational currency, the Euro’s founding fathers were eager to borrow the Bundesbank’s credibility in order to help the Euro off to a smooth start. In light of this objective, it appeared a wise decision to highlight the continuities in European monetary policy regarding both institutional design and leading personnel. Adopting the Bundesbank’s tradition of giving the chief economist a leading role and selecting Otmar Issing for this distinguished post seemed an obvious choices (Kaltenthaler 2006: 57). After a successful academic career, Issing had been the Bundesbank’s chief economist between 1990 and 1994, where “the president was the public face of the central bank [while] the chief economist was actually much more important in charting the course of policy” (ibid: 56). To observers like Mervyn King and Martin Wolff this rings true for the Euro’s first years as well; Otmar Issing was the intellectual force behind the ECB’s monetary policy and “the powerful living symbol of the continuity between the most credible currency [the DM] and the Euro” (Trichet 2007a).

Issing also ended up being the only original member of the Executive Board to serve the full eight-year term, from June 1998 to May 2006 (see Figure 3.1). During those years, Issing established many practices that shape the way the ECB makes monetary policy to this very day. Be it the exact formulation of the ECB’s price stability target and its re-formulation in 2003, the prominent role for monetary indicators under the Two Pillar Strategy he developed, the way ECB and NCBs cooperate in producing economic projections, the establishment of the ECB as a research powerhouse, or the

---

<sup>49</sup> Interview (10) with Journalist in Frankfurt, 7 Jan 2015.

ECB's communication strategy, including the design and publication intervals of the *Monthly Bulletin*<sup>50</sup> as the ECB's flagship publication – it all carried Issing's signature.

While all this is widely recognized, less is known about Issing's legacy for the ECB's everyday operations. Being responsible for both DG-Economics and DG-Research – the two areas which are “at the very centre of monetary policymaking” in any central bank (Issing 2008: 71) – he also left a mark on the Economists working in these units, the ECB managers of tomorrow. Due to his long policy experience and strong economic background he left a lasting impression on the many young economists starting their career at the newly created central bank. As one ECB manager recounts, Issing had the unusual habit of holding personal meetings with every newcomer in the DGs for Economics and Research during their first days at the ECB. This alone may have been enough to impress a generation of ECB economists, but Issing continued having regular informal interactions with them (e.g. by frequently having group lunches with economists, where their managers would not be allowed to participate) and provided every one of his economists with direct and open feedback on the work they prepared for him.<sup>51</sup> Former colleagues describe him as particularly approachable and integrative, displaying a great willingness to engage in economic debate with missionary zeal.<sup>52</sup>

The key to understanding how a single individual could become so influential arguably lies in a combination of personality and context. Issing's background as a highly regarded academic economist, his long-standing policy experience within the central bank which had previously driven European monetary policy, as well as his “intellectual curiosity and excellent interpersonal and management skills”<sup>53</sup> would have probably made him a dominant figure on any monetary policy committee at any given time. However, these character traits were arguably even more important during the historic experiment of creating a new central bank and launching a new currency. Issing recognized this formidable challenge:

*“As a central banker directly involved in monetary policy-making, I have been dealing with uncertainty and its consequences for a large part of my professional life. From my experience as a member of the Board of the Bundesbank, I have vivid memories of the challenges posed by German reunification and the turbulence surrounding the ERM crises. But never have I felt the impact of uncertainty so acutely*

---

<sup>50</sup> Termed ‘Economic Bulletin’ since January 2015.

<sup>51</sup> Interview (24). Otmar Issing confirmed these fairly unusual management practices in personal communications with the author, underlining how important it was to him to have direct interactions with each employee in DG-Economics and DG-Research.

<sup>52</sup> Interview (32) with Bundesbank manager in Frankfurt, 19 Jan 2017.

<sup>53</sup> Interview (24)

*as in the weeks that preceded and followed the introduction of the euro and the birth of the single monetary policy.” (Issing 1999)*

In his 2008 account of *The Birth of the Euro*, Issing provides a detailed account of how he and his colleagues met this challenge. Regarding the collaboration with his staff – which he repeatedly praised as having been crucial for the successful changeover and to which he dedicated his book – he remarks:

*“There was no doubt whatsoever about the quality and motivation of the staff – quite the reverse: never before had I seen such enthusiastic, boundless commitment. There was, however, only a relatively small proportion of experienced economists, and very few were familiar with concrete issues of independent monetary policy. Success would depend on constant dialogue, the mingling of theoretical and empirical knowledge on the one hand, and monetary policy experience on the other.” (Issing 2008: 72)*

In other words: Issing led a very young team during the historic moment of establishing the Euro – and he chose to do so in a particularly integrative and collaborative way, which contributed to creating a strong identity within the departments he led. Against this backdrop, Issing’s public criticism toward the ECB’s crisis-fighting policies really hurts. Since he retired from the ECB Executive Board, Issing has published numerous opinion pieces in various German and national news outlets, often striking a harsh tone. And while his concerns usually do not receive the same media attention as interventions by, say, Wolfgang Schäuble, we can expect them to carry particular weight within the institution. From the ECB’s perspective, being the whipping boy for politicians such as the German Finance Minister further complicates an already tricky task and is certainly not welcome; yet it comes from the outside and, given the controversial nature of unconventional policies, may to a certain degree be expected. Issing’s disdain, however, is a different story. Coming from ‘the architect of the ECB’s monetary policy’ who served as a mentor to many of the institutions’ economists, his disapproval is likely to strike close to home.

### **3.3 ECB Presidents and their styles of leadership**

The ECB has so far witnessed three different presidencies – those of Wim Duisenberg (1998-2003), Jean-Claude Trichet (2003-11), and Mario Draghi (from 2011) – which were reportedly shaped by diverse personalities and correspondingly different styles of leadership. I briefly reflect on reports of the different ways of leading the ECB and the Governing Council below, because we can expect them to make a difference regarding the decision-making process, and the question of who gets to have a say and when. Furthermore, the below argues that the ECB’s leaders did not only differ in terms of

management styles; they also interpreted the ECB's mandate and thus their role differently.

Wim Duisenberg reportedly interpreted his role as ECB president as moderator rather than agenda-setter, chairing the Governing Council with an emphasis of building consensus between the committee's members. Even though his presidency had been "favoured strongly by the German Bundesbank" (Dyson 2000: 65) to which he was "intellectually close" (James 2012: 222), this did not significantly influence monetary policymaking during the ECB's first years. After several years of his leadership, therefore, commentators asserted that "we don't know much about his monetary philosophy" (Hübner 2002: 5). Duisenberg did not appear as all too interested in the details and specifics of the monetary policymaking process, which he left to a large degree in the hands of chief economist Otmar Issing. One ECB manager interviewed for this study even went so far as to say that, during the Duisenberg presidency, "monetary policy was essentially sourced out to Issing."<sup>54</sup>

Not only did Duisenberg entrust Issing with the task of developing the ECB's unique two-pillar monetary policy strategy (Kaltenthaler 2006), the influential German was also the driving force behind turning strategy into action. Issing assumed considerable agenda-setting power by presenting the state of the Eurozone economy as well as projections of its future path and options for future policy to his colleagues at the Governing Council. He did so in close cooperation with his staff in DG-Economics and DG-Research, as he recalled after his retirement from the post:

*"It has been a constant pleasure to work as a team with my staff of excellent economists [...]. Hardly a day has gone by on which I could not learn from reading their contributions and discussing the reasoning behind them. It has been my privilege to present the results of this co-operation to the decision-making bodies, thereby connecting economic analysis and research with policy. This process goes in two directions: input into the decision-making process and impulses from that process for further studies." (Issing 2007: 83)*

The chief economist's strong position as well as his openness to channeling staff input into top-level decision-making cannot be taken for granted, however. Both depend not only on personalities and leadership styles, but also on contextual factors. This is what Cecchetti and Schoenholtz (2008) point out in their analysis of how central bankers themselves perceived the first decade of the ECB. Based on 17 in-depth interviews with senior officials, they assert that "the decision-making process at the ECB allocated *until recently* a significant role to the Chief Economist in setting the stage for policy rate decisions. [...] [This] "proposal power" inside the Governing Council may have

---

<sup>54</sup> Interview (31) with ECB manager in Frankfurt, 18 Jan 2017.

been of greatest importance in the early years of EMU, precisely when the shortage of data and forecast models was most acute” (Cecchetti and Schoenholtz 2008: 13; *my emphasis*). This suggests that, in the early days of the ECB, Otmar Issing and the departments he led effectively held a monopoly over data and models of the Eurozone economy, which he and his staff were only developing at that time. It further suggests that the significance of the Chief Economist decreased in the second half of the first decade, when Eurozone data and models became more established – and Jean-Claude Trichet took over from Wim Duisenberg.

Trichet was a very different leader, both adopting a more directive management style and being much more involved in the everyday operations of preparing monetary policy decisions. As a seasoned French civil servant, he had risen through the ranks of strongly hierarchical organizations which, according to news sources, rubbed off on his own leadership style.<sup>55</sup> “Trichet forcefully steered, directed, and at times, dictated policy from above” during the crisis, according to an account by Richard Stillman (2016: 260). Even if such a characterization may be exaggerated regarding his role within the Governing Council, where he used his leadership skills to act more as *primus inter pares* (Verdun 2017: 217), Trichet surely played a much more active part in monetary policymaking than his predecessor. Thus his individual economic beliefs and preferences can be expected to have played a much more significant role for ECB policy than those of Duisenberg.

Even Trichet’s nomination as ECB president had initially met substantial German-Dutch opposition, he quickly established himself as a single-minded inflation-fighter and staunch defender of central bank independence after taking office in Frankfurt. “Once in the ECB, he was completely firm, and began to be seen as more German than the Germans” (James 2012: 394). In light of the positions Trichet (as official of the French treasury) had fought for in the negotiations leading up to the Maastricht agreement, this surprised many. Not only had he rejected central bank independence as incompatible with French republican traditions; he had also “complained that the recommendation of the Delors Report was ‘too Germanic’” (ibid: 276). Hence the German opposition to his presidency. Yet, when he put on the hat of the ECB president, German reservations proved unfounded. Trichet was said to speak “French with a German accent” (Irwin 2013: 115) to such an extent that a senior ECB economist recalls that “he was accused by those who were less focused on inflation that he was like a Taliban, an inflation Taliban” (as cited in Braun 2015: 377).

There was also considerably more interaction between ECB staff and the Executive Board under Trichet. Originally, staff briefings before monetary policy meetings had been a matter between Chief Economist Issing and his team and the other members of the Executive Board were merely informed through written reports afterwards. Trichet

---

<sup>55</sup> “Trichet und Duisenberg: Zwei Banker – zwei Europäer“, *Frankfurter Allgemeine Zeitung*, 2 June 2008.



made staff briefings for the entire Executive Board a regular – and often lengthy – routine.<sup>56</sup> These briefings usually take place two days ahead of monetary policy meetings and are typically given by the Heads of Division of the ECB’s most policy-relevant divisions within DG-Economics, DG-International, and DG-Research, albeit presentation time is occasionally shared with other senior staff.<sup>57</sup> Trichet himself often interrupted presentations to discuss detailed aspects with staff – “he wanted to know everything.”<sup>58</sup> At the same time, Trichet was not the only new arrival at the ECB’s top management who was more interested and involved in the minutiae of monetary policy-making than his predecessor had been; the same can be said for other ‘second generation’ members of the Executive Board such as Lucas Papademos or Lorenzo Bini Smaghi.<sup>59</sup> To sum up, staff presentations became an important forum for intense discussions of monetary policy between ECB economists and management – implying that the Executive Board (and the ECB president in particular) played a more important role for monetary policy decisions, which no longer were prepared by Chief Economist Issing (or his successor Stark) in relative autarchy.

Decision-making procedures certainly changed during the crisis, when monetary policy became a much more politicized topic compared of the early years of ‘plain sailing’, when members of the Governing Council found it much easier to adopt a Euro area rather than a national perspective.<sup>60</sup> In addition, the ECB also witnessed another marked change regarding its internal leadership when Mario Draghi took over from Trichet at the end of 2011. Draghi’s attempts to keep meetings shorter and delegate more than his predecessor were reportedly regarded a welcome change in the beginning. Yet as policy decisions became more and more contentious, he increasingly prepared decisions only with a small group of confidants, while sidelining key heads of department inside the ECB and keeping national central banks in the dark.<sup>61</sup> This allegedly secretive and autocratic style led to frustrations – particularly in Germany – and Reuters reported in 2014 that national central bank heads were even planning to challenge Draghi over his leadership style, according to insider sources.<sup>62</sup>

Compared to Trichet, a veteran ECB insider is quoted, “Mario is more secretive... and less collegial. The national governors sometimes feel kept in the dark, out of the loop”. The same report cites another ECB sources as saying “Jean-Claude used to consult and

---

<sup>56</sup> Interview (31); Interview (24)

<sup>57</sup> These divisions include in particular the Divisions for Fiscal Policy, Output and Demand, Prices and Costs, Capital Markets and Financial Structure as well as Monetary Analysis in DG-Economics. The two units providing input from the perspective of DG-International are the divisions for External Developments and International Policy Analysis. Interview (24) with ECB manager in Frankfurt, 2 Dec 2015.

<sup>58</sup> Interview (18)

<sup>59</sup> Interview (31)

<sup>60</sup> Interviews (31); (18); (20); (32); (33)

<sup>61</sup> “Insight - Mario Draghi's German problem”, *Reuters*, 23 Oct 2014.

<sup>62</sup> “Central bankers to challenge Draghi on ECB leadership style”, *Reuters*, 4 Nov 2014.

communicate more; he worked a lot to build consensus.”<sup>63</sup> Jürgen Stark, Issing’s German successor as ECB Chief Economist and vocal critic of the institution after his resignation in 2011, seemed to confirm this openly by stating that “there is a lack of team playing going on in the Governing Council; the governance is changing.”<sup>64</sup> But while Draghi seemed less focused on building consensus among European central bankers (presumably knowing well that unanimity would not be attainable in the case of controversial ‘money-printing’ policies), he appeared as a gifted politician and convinced political circles outside of Frankfurt. Referring to his success in winning Merkel’s tacit consent, Daniel Gros states that Draghi “has carried the German political establishment every step of the way” (as cited in Briançon 2015). In short: Draghi’s efforts may have been more geared towards securing external support than towards internal agreement.

This change was also felt by ECB staff. Regarding the staff briefings prior to monetary policy meetings, the overall time reserved for the staff presentation has been cut by 50 percent (from two to one hour in total) under Draghi. In particular, the new protocol imposes strict time-limits on individual contributions and, unlike before, there is no room for feedback or detailed questions and answers. As a consequence, there is much less debate between ECB staff and Executive Board officials under the Draghi presidency<sup>65</sup> – one particularly important channel of influence for ECB staff has been severely compromised. This reminds us that informal procedures of decision-making cannot be taken for granted, as staff input into the decision-making process crucially depends on ECB officials’ willingness to engage with them. And this depends significantly upon who leads the ECB and how.

To conclude, the ECB’s leadership has undergone remarkable changes within the span of only eighteen years. In terms of monetary policymaking, the Duisenberg presidency was shaped by an influential Chief Economist, Otmar Issing, and his close cooperation with his teams in DG-Economics and DG-Research. Under Trichet, the preparation of monetary policy decisions moved closer to the ECB’s Executive Board and Trichet himself as well as other board members became more heavily involved in the process – all of them communicating intensely with staff. Draghi, finally, turned outward and relied more on external support than on internal consensus. All this has important implications for ECB policies, as the way the decision-making process is organized critically influences which actors – and whose ideas – can play a role in determining the outcome.

With this historical background and the specifics of the ECB’s decision-making process in mind, I now turn to the importance of economic ideas. The above shows that

---

<sup>63</sup> “Insight - Mario Draghi’s German problem”, *Reuters*, 23 Oct 2014

<sup>64</sup> *Ibid.*; Interview (32).

<sup>65</sup> Interview (24)

European monetary policy is largely determined by unelected technocrats – central bankers – whose influence in designing and managing EMU has inspired numerous studies. What is more, these central bankers are expected to act in a personal capacity rather than as representatives of their institutions or home countries. This goes for their work within the Delors Committee which provided the blueprint for EMU as well as for decision-making within the ECB Governing Council. Two famous anecdote underlines this: Jacques Delors was forced to withdraw a paper prepared for the Delors committee after it became clear that he had used Commission services when preparing it, rather than working on his own (see Dyson & Featherstone 1999: 346; Verdun 2000b: 825). Similarly, when the ECB Governing Council came together for the first time in June 1998, Bundesbank president Hans Tietmeyer objected to the seating order as the nameplates had been arranged in order of central bankers' home countries. To underline that policymakers are to act in their personal capacity, this was changed and all members are now seated in alphabetical order of their surnames instead (see Issing 2008: 69; Brunnermeier et al. 2016: 316).

This shows that there is a strong expectation within these committees that central bankers make policy independent not only of politics, but of their home institutions as well. They are supposed to act *as economists*. And the institutional rules of EMU are designed to come as close as possible to this ideal of technocratic, independent policymaking. According to indices of central bank independence, the ECB serves as an extreme example since it follows a particularly vague mandate, enshrined in an essentially inviolable Treaty open for interpretation. As Otmar Issing (2008: 130) writes, “the Treaty left the ECB a good deal of latitude in developing an appropriate set of instruments with which to implement its monetary policy.” Against this backdrop, this thesis examines how ECB policymakers' interpret their mandate in the context of the uncertainties of an existential crisis.

Taking into account their high degree of autonomy and the radical uncertainty associated with monetary policymaking in the crisis, I argue that the ECB's policy choices depend on how central bankers perceive of economic problems and solutions. And this, in turn, depends on the economic beliefs they hold.

The remainder of this thesis thus zooms in on the following questions:

- What ideas about the role of monetary policy exist (chapter 4)?
- How can we empirically measure these ideas and how they actually influence policymakers' preferences (chapter 5)?
- And, finally, how did these ideas inform what the ECB did and didn't do to fight the economic crises after 2007 (chapter 6)?



#### 4. WHAT CAN CENTRAL BANKERS DO? CONTROVERSIES IN MONETARY THOUGHT

*"It is hard to realize how radical has been the change in professional opinion on the role of money. Hardly an economist today accepts views that were the common coin some two decades ago."*

**Milton Friedman, 1968**

The core question of this dissertation is why central bankers do what they do. And it is my hypothesis that what they do follows from what they believe they *can* do. For what we believe to be possible "critically shapes what is desirable" (Steinmo 2003: 209). And what is possible in monetary policymaking, we realize once again, is far from clear. In the calm decades before the crisis, the so-called 'Great Moderation', the puzzle of monetary policymaking seemed resolved, mirrored by a great deal of consensus in the academic literature on monetary policy. Old controversies were settled, fundamental questions no longer raised. But those days are over. Since the crisis challenged much of central bankers' conventional wisdom, we are witnessing a great deal of uncertainty and unusually harsh debates about which purposes monetary policy can serve. Therefore, I start my analysis of central bankers' economic ideas by reviewing these controversies in monetary theory in an attempt to map existing paradigms. This map is then taken up in subsequent chapters to measure empirically what contemporary central bankers actually do believe, and how this relates to their policy choices in the crisis.

This exercise is necessarily backward-looking as it focuses on the history of economic thought. As such, this chapter may be read as something like a primer in monetary theory for non-economists. The first section offers basic definitions concerning what monetary policy actually is, why independent central banks are charged with the task, and what instruments are available for pursuing monetary policy objectives. It introduces basic theories, traces their development over time, and highlights inconsistencies between concepts. The second section focuses on views as to what the 'proper' objectives of monetary policy are. It shows how consensus about the ordering of objectives – price stability, output stability, or financial stability – has changed over time. Finally, section three focuses on discussions of monetary policy during economic crises. While the first two sections implicitly focus on monetary policy in times considered as 'normal', there are good reasons to believe that monetary policy works quite differently in a depressed economy. Standard mechanisms to influence economic development collapse and central bankers have to resort to unconventional instruments to get the economy back on track. Section three therefore complements the previous sections in mapping the different ideas about how unconventional monetary policy works. This chapter's final section summarizes the different aspects of monetary theory and how they relate to established macroeconomic paradigms such as 'Keynesianism', 'Neoclassical economics', or 'Ordoliberalism', to prepare the empirical analyses to follow.

## 4.1 What is money, who creates it – and how?

Central bankers are widely regarded as the watchmen of our currencies. This is their main task and most modern states have granted them astonishing degrees of independence to fulfil it, because this is widely believed to be the best arrangement to manage currencies. How to understand the nature of money itself, however, is much less clear. Consequently money has been defined differently at different times. Given what a basic aspect of our everyday lives the use of money is, the simple question of *what money actually is* sparks astonishing controversy and, even, mystery. As the legendary Walter Bagehot wrote: “Men of business in England do not like the currency question. They are perplexed to define accurately what money is: how to count they know, but what to count they do not know” (cited in Hall 2008: 14).

There are, of course, well-defined dictionary definitions of money (e.g. see Black et al. 2012). According to them, money helps overcoming the obvious limitations of barter exchange by serving three fundamental functions: it facilitates trade by providing an efficient *medium of exchange*; it allows resources to be saved for future use by acting as a *store of value*; and it helps us to compare the value of different goods and services by acting as a *unit of account*. These three functions of money can already be found in the writings of Aristotle, and they remain an integral part of modern-day textbooks on monetary economics (Karimzadi 2013: 119).

It is immediately obvious that a system of barter exchange would be highly inefficient. In such a system, only goods are exchanged for goods. And therefore, only if a person offers you exactly what you want and herself wishes, in the very same moment, to take possession what you have, can the exchange happen. Of course, such a ‘double coincidence of wants’ rarely happens. To overcome these inefficiencies, the story goes, currencies were invented to serve as a medium of exchange. Money thus facilitates exchange by drastically lowering transaction costs. But what is it?

In principle any commodity can serve as currency, as long as is *generally accepted*. Adam Smith (1948: 25), for instance names cattle, salt, or a specific species of shells as examples for the range of commodities used as a medium of exchange in ancient societies. In practice, however, most economies have turned to precious metals and coinage to facilitate trade. Metal coins seem a particularly reasonable choice, since precious metals are scarce, durable and portable. They are easily transported and exchanged. Their durability makes them superior to cattle or salt when it comes to storing value for future use. Being easily measured, metal currencies are also particularly fit to serve as a generalized unit of account. While the use value of other commodities varies depending on time, place, and demand, money as metal coins offer a relatively invariant measure of value.

The conventional story of the origins of money is that it was invented to overcome the inefficiencies of barter exchange. This belief rings true, is easily comprehensible and therefore widespread. The only trouble is, as Felix Martin (2013: 9) bluntly states, it is “entirely false”. Despite decades of research efforts by economic historians, no proof of a barter system of production has been found – possibly because such a system “has never existed and is practically inconceivable” (Karimzadi 2013: 243). The conventional story then features prominently in the history of economic thought not because of empirical observations, but because great thinkers from Aristotle to Adam Smith arrived at it based on deductive logic (Martin 2013: 9). The barter exchange system is thus better thought of as a hypothetical counterfactual than a historical fact. What history does provide us with, however, are examples of episodes in which money was *not* used as a commodity to serve as a medium of exchange.

A particularly interesting example comes from Yap, an island in the western Pacific Ocean. Here, people used huge stone wheels, called ‘fei’, as money. The fascinating aspect about this ‘medium of exchange’ was that they often were not exchanged at all. Ownership of the fei shifted by agreement, and there was no need to move these heavy stone wheels (Tobin 2008). Fei did not even need to be visible to serve their social and economic functions. One family reportedly lost a fei in a shipwreck off the island’s coast; yet the family’s wealth remained undisputed (Martin 2013: 5). Milton Friedman (1991: 5) thus cites the example of Yap as a perfect illustration of “how important ‘myth’, unquestioned belief, is in monetary matters”.

Such invisible, or abstract, money may serve as an extreme example of our contemporary systems of fiat money. Just like a sunken stone disk at the bottom of the ocean, money without any intrinsic value – a piece of paper or an electronic number – derives its exchange value from the fact that it is *generally accepted*. Thus, currency itself – the commodity which symbolizes money – is not what really defines money. Money is better understood as a generally accepted “system of credit accounts and their clearing that currency represents” (Martin 2013: 13). For a monetary system to function, it is therefore crucial that (a) two parties agree on a relationship of debt and credit, and that they can (b) trust that this will be accepted by third parties, too. Whatever commodity is used as a token to record the underlying system of credit accounts – cattle, salt, gold, or an inherently worthless banknote – must be transferable and accepted. This is crucial: it is the expectation that third parties will now *and in the future* accept this specific form of credit which allows it to perform monetary functions. Money carries a promise of value, which is generally trusted.

The nature of money as a social technology based on trust (or credibility) may well explain the emphasis that contemporary monetary policymaking puts on the role of expectations. Not only do central banks monitor expectations very closely, there is also a “well established theoretical argument that *monetary policy mainly works through*

*expectations*” (Qvigstad 2006). This idea is most famously stated by Michael Woodford (2005: 3), who stresses that “not only do expectations about policy matter, but, at least under current conditions, very little *else* matters”. Before discussing the central role of expectations in monetary policy at length, however, I introduce the central actors conducting monetary policy and the instruments they have at their disposal.

#### 4.1.1 Who ‘makes’ monetary policy?

Central banks are conventionally thought to be the institutions commanding the money printing press. Some even consider the 1844 act, which gave the Bank of England the monopoly of issuing banknotes, as the cradle of modern-day central banking (Davies & Green 2010: 11).<sup>66</sup> Yet while issuing currency usually is the exclusive responsibility of central banks, does this not mean that they are the ones who ‘create money’? This false belief, again, is rooted in a conception of money as something physical, as the banknotes and coins the central bank issues. However, a non-trivial fact is that only this rather small fraction of the money we use is actually created by central banks.

Commercial banks, not central banks, create the major part of money in the form of deposit liabilities.<sup>67</sup> Commercial banks lend to firms and households a multiple of what they themselves hold. Therefore, the overall money supply is a multiple of the money issued by the central bank. When a commercial bank makes a loan, it creates money. Conversely, when this loan is paid back in full, money is ‘destroyed’ (as in the amount of money in the economy is reduced). Thus while all currency is money, not all money is currency. Over the course of the twentieth century, central banks have become increasingly accustomed to sharing the monopoly of money creation with commercial banks, when “deposits and their transfer via checks and giros became widely accepted” (Padoa-Schioppa 2000). Today we use central bank money (banknotes and coins) and commercial bank money (deposits) interchangeably.

Of course, commercial banks cannot freely create money as they wish. If this was the case, central banks would have no leverage over the money supply whatsoever and no means to safeguard price stability. They therefore regulate the process of money creation by commercial banks by demanding them to hold the equivalent of a particular ratio of the credit they grant in their books. This was traditionally achieved by setting a level of minimum reserve requirements, that is, by demanding commercial banks to store away some fraction of its customers’ deposits in the form of central bank money

---

<sup>66</sup> Others point to 1870, when the Bank of England assumed the lender-of-last-resort function, as the beginning of central banking as we understand it today. While the oldest central banks, the Swedish Riksbank (1668) and the Bank of England (1694), were founded already in the 17<sup>th</sup> century, they were initially private banks without any of the features or functions that we associate with central banking today (Davies & Green 2010: 11). Therefore, there is no unanimously agreed date which marks the “official” beginning of central banking.

<sup>67</sup> In Britain this amounts to 97 percent of all the money in the economy, according to the *Positive Money* reform movement, see <http://positivemoney.org/how-money-works/how-banks-create-money/>



– the so-called reserves.<sup>68</sup> It follows that central banks can potentially influence the overall money supply by changing the minimum reserve requirements they demand. In theory, they could even completely strip commercial banks of their power to create money by requiring reserve requirements of 100 percent. In this case, the central bank would indeed fully control the money supply. In practice, however, central banks rarely raise the minimum reserve requirements, because doing so could cause serious liquidity problems in the banking sector.

Common measures of the money supply include even more differentiations. The central bank money, or *base money*, which consists of the reserves that commercial banks hold in their accounts at the central bank plus the overall amount of currency which circulates in the public, is often denoted as M0. M1, then, includes bank deposits which are immediately convertible into cash. It is generally assumed that a small increase in the monetary base M0 (‘base money’) will cause a much bigger increase in M1 (‘broad money’), because the volume of loans banks are allowed to make due to the increase in M0 exceeds this initial increase (unless reserve requirements are set to 100%). If these requirements are 1%, as in the euro area, an addition of 1 unit in the monetary base could therefore potentially increase M1 by 100 units – this ratio is called the money multiplier. Broader measures of money include less liquid assets, i.e. longer-term deposits at commercial banks that are not immediately convertible into cash. These measures, M2, M3 or M4, are differentiated by the degree of liquidity of the assets they include, but the exact classifications vary from country to country. Table 4.1 below gives an overview of the definitions used in the euro area:

<b>Liabilities*</b>	<b>M0</b>	<b>M1</b>	<b>M2</b>	<b>M3</b>
Currency in circulation	X	X	X	X
Overnight deposits		X	X	X
Deposits with an agreed maturity of up to 2 years			X	X
Deposits redeemable at notice of up to 3 months			X	X
Repurchase agreements				X
Money market fund shares/units				X
Debt securities issued with a maturity of up to 2 years				X

**Table 4.1: Definitions of Euro Area Monetary Aggregates**

\* Monetary liabilities of MFIs and central government (post office, treasury) vis-à-vis non-MFI euro area residents excluding central government (Source: European Central Bank 2011: 50)

The key take away from this is: even if central banks, which issue banknotes, can be said to ‘run the printing press,’ they do not directly control the money supply. Money as a quantity under direct control of the central bank thus amounts to little more than a

<sup>68</sup> There are other regulations limiting the amount of money that commercial banks may lend (create), e.g. the Capital Adequacy Requirements set by the Basel Accords of the Bank of International Settlements (BIS). Today, these standards are arguably more important to regulate commercial bank lending than traditional reserve requirements; thus, some central banks have even abolished reserve requirements.

(widespread) folk-theoretical notion (Braun 2016). In practice, commercial banks play an important part in the creation of money. Therefore, central banks need to target the behavior of commercial banks (and shadow banks) to influence the money supply.

#### 4.1.2 Central bankers' instruments

If monetary policymaking does not imply that central banks create money, then which instruments do central bankers have at their disposal to influence price developments? Astonishingly few! As two former senior officials of the Bank of England put it: “the instruments at their disposal are quite limited and, in a sense, not very sophisticated” (Davies & Green 2010: 9-10). Because central banks function as ‘the bank of the banks,’ their main tool is their own balance sheet. Central bankers thus influence the economy mainly by buying and selling assets and liabilities. In doing so, they generally seek to influence either the price of money or its quantity – and, by doing so, the performance of the economy as a whole (ibid: 25).

The short-term interest rate is usually the single most important tool of a central banker. It refers to the interbank market rates of interest on central bank money, which the central bank can influence in different ways. In simplistic terms, the US Fed influences short-term interest rates by buying and selling securities (usually US government bonds), while the ECB tries to achieve the same by granting banks loans (secured by collateral) at a particular rate of interest which then becomes the benchmark for interest rates throughout the Eurozone.<sup>69</sup> Despite their differences, both techniques aim at increasing or withdrawing reserves which affects the price of central bank money – the interest rate (see Rehbock 2013). In practice, direct interventions in interbank markets are often not even required, when market rates automatically converge in response to the central bank announcing the desired target interest rate (Asensio 2015: 265).

Furthermore, it is often not the change (or non-change) of the short-term interest rate as such that matters. More important is the *signal* a central bank’s decision sends to market participants. Therefore, interest-rate decisions are complemented by suasion and guidance to markets. Since it has the ability to move financial markets, central bank communication has become a very powerful part of the central bank's toolkit (Blinder et al. 2008). This, however, is a rather recent development and greatly at odds with central bank practice before the 1990s. Conventional wisdom had long held that central bankers should say as little as possible, thereby creating a mythology that argu-

---

<sup>69</sup> As the crisis has shown, the ability of these techniques to bring about the desired changes in interest rates crucially depends on the state of the financial system. A case in point is the new technique employed by the US Fed when it tried to raise interest rates at the end of 2015. As a consequence of its bond purchases in previous rounds of QE, the financial system was soaked with Fed money. This neutralized the Fed’s traditional tool to change rates, because selling bonds in ordinary proportions would have had little effect on a market awash with excess reserves. The Fed could not easily drain enough money from the system to discourage lending and thus invented a new technique which essentially amounted to paying banks not to lend more (see: “Retooling the Fed for Liftoff”, *New York Times*, 13 Sep 2015, p. BU1).

ably helped central banks to defend their discretionary opportunities (Chant & Acheson 1973). Today, almost the reverse is true: central banks around the world have made it a priority to publicly explain their strategies and to clearly communicate how they assess financial and economic developments. Doing this is now seen as an opportunity to enable markets to form expectations “more efficiently and accurately” (ECB 2011: 87) and to make the future path of central bank actions more predictable.

These two essential tools – interest-rate decisions and the communication accompanying them – may sometimes be backed by a central bank’s regulatory and supervisory functions. During economic downturns, however, these two conventional tools may be insufficient to deliver the desired outcomes. This may force central banks to employ other, less well-established, unconventional measures, as I describe in greater detail below (see chapter 4.3). A more fundamental issue needs to be discussed before, however. How are the interest-rate decisions and communications of central bankers thought to affect the behavior of economic agents and, thus, economic outcomes? How exactly are central bankers’ decisions thought to affect the economy?

### 4.1.3 The transmission mechanism

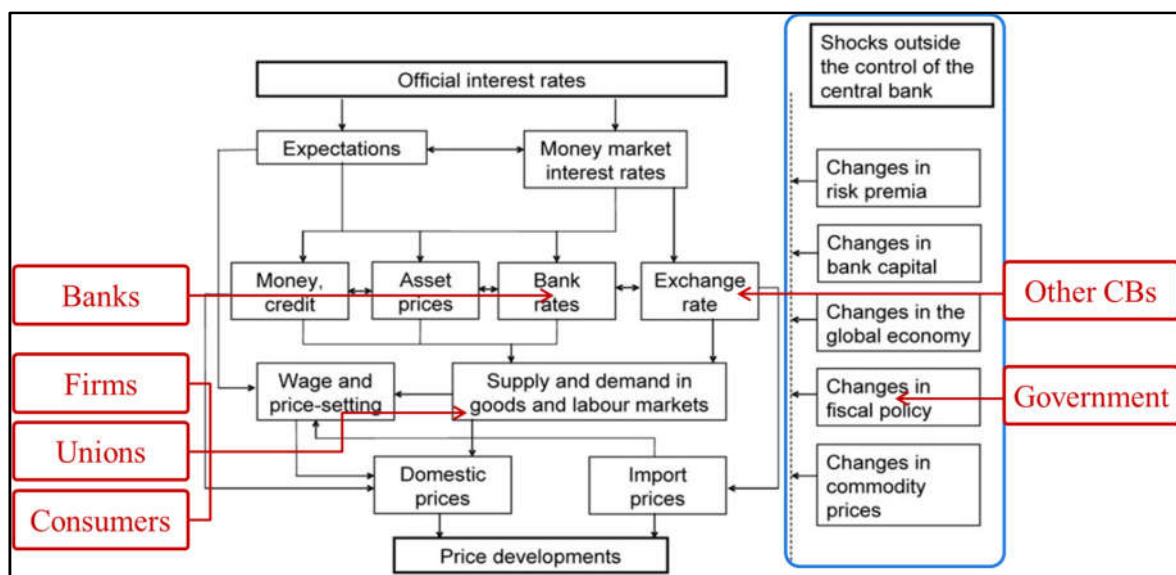
We know now that the link between a central bank’s decisions and the money supply is much weaker than assumed under the widespread, but false, folk theory of money (Braun 2016). Money creation depends in no minor part on the behavior of commercial banks – and the expectations underlying their actions. In fact, one of the most unambiguous lessons of the crisis years is that the transmission mechanisms of monetary policy depend very much on the state of the banking system (Beck et al. 2014).<sup>70</sup> However, as Dow (2014: 229) points out, even before the globalization of finance, “central banks could only influence the level of credit and money in the economy, not control it”. And the relationships between monetary policy and those variables that central bankers ultimately target – inflation, growth, or employment – are even more unstable. The link between central bank decisions and those crucial real economic variables depends on the decisions of a much wider array of actors, some of which remaining entirely beyond the reach of even the most powerful central bank.

The schematic illustration of the transmission mechanism below displays this complexity (see Fig. 2.1). It shows that whether or not a central bank’s decision will produce the desired outcome depends not only on the lending behavior of commercial banks. It is also influenced by firms’ wage and price-setting decisions, governments’ fiscal policy stance, consumers’ preferences for spending vis-à-vis saving, and – via the exchange rate channel – the monetary policies of other central banks. Complicating matters even further, there may be exogenous shocks such as abrupt changes in com-

---

<sup>70</sup> In fact, one of the ECB’s biggest problems is the fragmented banking sector in the Euro area. In this light, Reichlin & Baldwin (2014: 17) ask: “how can a monetary authority credibly commit to keeping inflation stable when its policy rate is transmitted differently across the currency area?”

modity prices which ‘distort’ agents’ decisions. The various oil shocks occurring over the course of the past 40 years are the most obvious case in point.



**Fig. 4.1: Main transmission channels of monetary policy decisions**  
(author's representation, based on ECB 2011: 59)

Three aspects of the transmission mechanism are particularly important to note for the purposes of this study. First, some important forces determining how monetary policy influences the economy are completely outside the central bank's control. Central banks may be able to establish some form of relationship with domestic governments, the financial sector, or other central banks. Formal coordination mechanisms and fora for consultation and cooperation with third actors (e.g. in the context of the Bank for International Settlements) as well as informal channels may help ruling out some forms of disruptive behavior such as counterproductive fiscal policies or competitive devaluations by trading partners. Still, big shifts in the supply and demand for goods and labor or an embargo of oil exporting countries, can cause monetary policies to fail.

This leads to a second important aspect: many of these factors are deeply interrelated. For instance, changes in global conditions do not only change the context of economic decision-making; they may also change the ways how firms respond to interest-rate decisions themselves. Thus the fundamental relationships between economic variables change over time. Because of these inherent uncertainties and historically unstable relationships in monetary policymaking, central banks have focused on different variables at different times. And “very often the choice of focus follows from the particular theory of economic behavior that for a period appears most convincing” (Davies & Green 2010: 26).

Third it is hard to overstate the relevance of expectations. The view presented in Woodford (2005) that “very little else matters” and that the level of interest rates *as such* are “of negligible importance” may appear somewhat extreme. But it is not only

that market expectations about future interest rates affects today's borrowing costs. Monetary policy decisions – and the way they are communicated – also guide firms' expectations of future inflation and, thus, price and wage-decisions. Taking into account the widely recognized importance of expectations leads to the crucial question of how central bankers themselves think about agents' expectations. For, in order to influence the expectations of somebody, one must have some idea as to how that somebody forms expectations in the first place. Since the late 1990s, this has become increasingly important, as central bankers' economic models started to include forward-looking expectations (see McCallum 2008: 4). In this respect, how central bankers model the expectations of economic agents becomes in itself an essential part of monetary policymaking.

#### **4.1.4 Rational expectations and money illusion**

How *do* economic agents – such as banks, non-financial firms, or households – arrive at expectations about the future? There is no simple answer to this rather basic question, as a recent episode around the Nobel Prize in Economics illustrates: The 2013 prize was shared by economists from seemingly opposing camps, which stirred much debate. While Eugene Fama's contributions to the field are rooted in the assumption of rational expectations and efficient markets, much of Robert Shiller's work in behavioral finance focuses on irrational behavior. Shiller had as early as 1984 called the idea that efficient markets always get prices right “one of the most remarkable errors in the history of economic thought” – and consequently mused that his fellow Nobel laureate had “a fundamentally different view of the world”. The 2013 Nobel Prize was thus followed by intense discussions of an ancient question: when, and under which circumstances, do people behave rationally or irrationally? The answer to this basic question is obviously of fundamental importance to macroeconomic modelling – and this goes for central banks in particular which aim at influencing the economy by steering the expectations of economic agents.

Our expectations of the future are often crucially shaped by past experience. When facing the uncertainties of future developments, Keynes (1937: 13) contends that we tend “to assume, contrary to all likelihood, that the future will resemble the past”. Other sources of information that could be modelled as shaping expectations include expert opinion and human conventional beliefs (see Dow 2013: 117). These, however, are much harder to model than simply extrapolating past developments. Therefore it may not come as a surprise that economists inside and outside of central banks have until the mid-1970s usually resorted to the concept of *adaptive expectations* (McCallum 2008: 3) – assuming precisely that people base their expectations of the future on past trends. Problems with such a conception arise, of course, when we have reason to believe that past trends are about to change. When policymakers publicly announce a change in policy, for instance, adaptive expectations do not adjust. This, of

course, is rather implausible since ignoring a policy change could potentially lead to costly mistakes. Therefore, adaptive expectations were increasingly challenged and, finally, superseded by a very different view.

The ‘*rational expectations revolution*’ led to the almost complete reversal of the previous approach. To state it bluntly, economic agents went from super-stupid to super-smart. While adaptive expectations imply naïve actors who blindly follow past trends, even though “the future never resembles the past” (Keynes 1937: 13), rational expectations assumes that people optimally incorporate all available information into their expectations about the future – and act accordingly. Importantly, this includes not only past trends, but also current policy rules and how they will affect macroeconomic outcomes in the future. This is rooted in the standard neoclassical assumption of utility maximizing actors: because being systematically wrong about the future can be very costly for economic agents, they devote considerable resources to avoid being wrong. Another key assumption behind this modeling technique is that the agents in the model share the model’s own predictions to be valid; therefore, rational expectations are sometimes also called model-consistent expectations.

When John F. Muth (1961) first proposed the idea of rational expectations, he was met with skepticism. Were agents’ cognitive abilities not limited? And was their level of information not heterogeneous (see McCallum 2008: 4)? Yet rational expectations overcame these reservations, since the idea did not imply that *individuals* could not go wrong when forecasting the future. The proponents of rational expectations simply held such forecasting errors did not occur systematically; they were random. Individual errors were therefore thought to be averaged out<sup>71</sup> and it was thus thought to be fruitful to model expectations as rational and model-consistent. This line of thinking was embraced by “an overwhelming majority of economists [...] as *the* way to represent how rational individuals think about the future” (Frydman & Phelps 2013: 2).

The success of the rational expectations hypothesis did not protect it from criticism entirely. For decades, however, it effectively banned other ideas about peoples’ expectations and behavior from economists’ research agendas (Fehr & Tyran 2004: 2). Conceptions of people making mistakes *systematically* disappeared largely. This includes a concept of particular importance to this study: the idea of money illusion.

In brief, money illusion describes that people often make bad economic decisions because they are not aware of inflation. This is anything but a new idea: the great classical economist Irving Fisher published a book on *The Money Illusion* as early as 1928. He expressed the view that people generally fail to realize “that the dollar, or any other unit of money, expands or shrinks in value” (Fisher 1928: 4) as a consequence of mon-

---

<sup>71</sup> Or, as Thomas J. Sargent (2008) puts it (citing Abraham Lincoln): “You can fool some of the people all of the time, and all of the people some of the time, but you cannot fool all of the people all of the time.”

etary shocks. In short, the vast majority of people err systematically because they tend to perceive monetary values in nominal and not in real terms. Inflation and deflation do confuse the wider public, which does not reason through its effects (Akerlof & Shiller 2010: 6). With its focus on sources of systematic mistakes in human decision-making, of course, this line of thinking ran counter to the dominant rational expectations approach. For instance, James Tobin (1972: 3) wrote that “an economic theorist can, of course, commit no greater crime than to assume money illusion.”

Whether people are prone to money illusion or not is, ultimately, an empirical question. It does not come as a surprise, then, that money illusion resurfaced as a consequence of yet another revolution: the rise of behavioral economics. Inspired by earlier research by cognitive psychologists (see e.g. Tversky & Kahnemann 1981), behavioral economists started to investigate how individuals actually make decisions in experimental settings. In this line of research, some efforts have been directed to establish an empirically founded understanding of some crucial questions: when, and under which conditions, do people fall victim to money illusion (Fehr & Tyran 2004; Maugeri 2010)? Do inflationary and deflationary shocks distort decision-making in a similar way, or do their effects differ (Fehr & Tyran 2001; Noussair et al. 2012)? Do inflation expectations reflect learning, in the sense that expectations of age groups differ according to their divergent experiences, e.g. experiencing hyperinflation (Malmendier & Nagel 2016)?

In their influential book on *Animal Spirits*, George A. Akerlof and Robert J. Shiller (2010: 47) contend that “the economy is full of telltales of money illusion”. In their view, this is largely a consequence of the third function of money discussed above: its use as a unit of account. This means that people think in terms of money. For instance, contracts and legal provisions are denominated in money terms. Accounting is another important example. If people did indeed see “through the veil of inflation”, they reason, they could easily adjust the nominal quantities for inflation. For instance, wage contracts and mortgages could be formed in such a way that they automatically adjust for changes in the costs of living. This, however, is rarely the case. Through indexation of wage contracts, unions could easily throw aside the veil of inflation. Yet they don’t. To the contrary, economists observe a great deal of resistance to cuts in nominal wages – more evidence of money illusion in wage setting (ibid: 48). Generally speaking, the stickiness of prices and wages seems to confirm that “it is considerably easier and more natural to think in nominal rather than in real terms” (Shafir et al. 1997: 367).

It is tempting to think of rational expectations and money illusion as contradictory worldviews. If we, rather, regard them as modelling devices which should represent the best possible approximations to empirical reality, there may be some potential for synthesis across different schools of thought. As early as 1976, Robert Lucas suggested that the usefulness of the rational expectations hypothesis depends on the character

of a situation, drawing on Knight's classic distinction between risk and uncertainty: "In situations of risk, the hypothesis of rational behavior on the part of agents will have usable content, so that behavior may be explainable in terms of economic theory. In such situations, expectations are rational in Muth's sense. In cases of uncertainty, economic reasoning will be of no value" (Lucas 1977: 15). In situation of Knightian uncertainty such as an economic crisis of the magnitude of the 'Great Recession', then, behavioral economics may provide more useful insights than the rational expectations hypothesis regarding the expectable patterns of human behavior.

However, behavioral economics has not yet arrived – and is unlikely to ever arrive – at an empirically-grounded conception of inflation expectations that is easily transferred into standard macroeconomic models. The empirical heterogeneity of expectation formation which they report is hard to reconcile with existing models; they require a simpler framework. In the words of Robert Skidelski (2017), such efforts to incorporate radical uncertainty into central bank models "suffer from the impossible dream of taming ambiguity with math" (Skidelski 2017). Therefore, central bank economists are largely left with a choice between adaptive and rational expectations (Wren-Lewis 2013), which may well explain why the latter remains so influential to this date.

Still, central bankers' models of the economy can and do include deviations from perfectly rational expectations and behavior. New-Keynesian DSGE (Dynamic Stochastic General Equilibrium) models, for instance, combine rational expectations with nominal price rigidities, mirroring human distaste for nominal wage cuts. This is consequential because "taking money illusion into account gives us a different macroeconomics – one that arrives at considerably different policy conclusions" (Akerlof & Shiller 2010: 50). In New-Keynesian DSGE models "temporary nominal price rigidities provide the key friction that gives rise to non-neutral effects of monetary policy" (Clarida et al. 1999: 1662). In other words: such a model of the economy assumes that monetary policy can have positive effects on the economy beyond providing price stability. This leads us to the issue of how a particular way to perceive and model the economy leads to corresponding views of what a central bank can, and indeed should, do.

## **4.2 What monetary policy can and cannot do: views on central banks' objectives**

There are three conventional goals for central bankers: achieving stable prices, stable output (usually stated in terms of growth and employment), and a stable financial system. While everybody agrees that all of these objectives are desirable, there is much less agreement as to whether and how central bankers can actually influence these goals. Even more controversial are the relationships among the three objectives. Can central bankers realistically aim at achieving all of them at once? Are there trade-offs between them, and, if so, which goals should be given priority? These fundamental



questions have found different answers at different times. There have been significant changes in views “both in terms of what monetary policy might be expected to deliver and in terms of the precise tools to be deployed to meet those ends. These views have inevitably been formed as part of wider debates about how the economy works” (Davies & Green 2010: 26). The section below thus describes how debates about what the ‘right’ goals of monetary policy are have evolved over time.

#### **4.2.1 Controlling inflation**

Today, we are (still) living in the age of the inflation-targeting central bank. Inflation, usually defined as a sustained increase in the general price level of goods and services, has become something like the central banker’s natural enemy. This has not always been the case. But since the 1990s, as the Fed’s Paul Volcker (1994: 31) stated “it is again respectable to say that the first – and some people would say the only – job of the central bank is to maintain price stability”. Over the past two decades, we have become so accustomed to regarding it the central bankers’ principal job to safeguard stable prices, that this statement rings almost superfluous or self-evident. However, as Buiter (2006: 2) points out, “conventional welfare economics considerations point in many different directions, but they do not point towards price stability as the natural objective of monetary policy”. Still, inflation targeting has become “the de facto standard framework for monetary policy” (Reichlin & Baldwin 2013: 10). But what does it mean to target inflation? How is inflation measured? Inflation of what? And what causes changes in these measures of inflation?

##### ***Defining and measuring inflation***

Inflation-targeting central banks publicly commit to a quantitative objective for medium-term inflation. This requires, of course, a measure of the general price level. The targeted inflation rate is usually the annualized percentage change in a general price index over time. And most central banks resort to the so-called consumer price index (CPI). For instance, the first central bank to announce a quantitative inflation target, the Reserve Bank of New Zealand, resorted to a CPI inflation target in 1989. The index measures price changes in a market basket of consumer goods and services purchased. Given how prominent this index (or its alternatives) figures in central bank’s policy strategies, it is everything but trivial which aspects are included to include in such a basket and how they are weighted. These price indices usually focus on those goods and services that matter most for households’ everyday consumption. More important than what they include is arguably what the indices leave aside. Most notably, they do not include asset prices. This is contrary to an early proposal in Irving Fisher’s seminal book on *The Purchasing Power of Money* (Fisher 1911). He believed that policymakers should try to stabilize a broadly defined index that included the prices of shares, bonds, and property as well. To omit price developments in these areas, critics argue, leads to biased measures which can “result in significant errors in monetary research, theory, and policy” (Alchian & Klein 1973: 174). Because the CPI is con-

structed on the basis of current consumption services only, it considers the prices of only part of the utility function and is therefore an inadequate measure (ibid: 178).

Another key question is whether or not to include food and energy prices. Contemporary central bankers have answered this question differently. While some, including the ECB and the Bank of England, focus on measures of *headline inflation*, which do include these more volatile components, the Fed has opted for a measure of *core inflation* excluding food and energy. This, again, may sound like a minor technical aspect. But it has far-reaching consequences. Central bankers who focus on core inflation undoubtedly disregard items on which households spend a rather large share of their income. Why? The reason is that food and energy components have historically been highly variable, but have tended to correct themselves over time (Bullard 2011). Therefore, measures of headline inflation can send misleading signals – at least over the short run. The idea behind focusing on core inflation then is not to disregard a substantial part of the prices people are paying. Rather, its proponents see core inflation as a better measure of underlying inflation trends and, thus, a solid predictor of *future headline inflation*. Still, for central bank practice, the choice of a measure can be very consequential, for instance when it comes to the question of how policy should react to an oil shock (Davies 2014b). Also, changes in energy prices may have an effect on core inflation through so-called *second round effects*: if companies raise prices and/or workers demand higher wages in response to temporarily higher energy prices, the long-term trend in both core and headline inflation will tick upwards – even if the increase in oil prices that triggered this development is eventually reversed.

However inflation is measured, inflation-targeting implies a quantified target. Here, almost all central banks seemed to agree on a number: 2%. Why has 2% become the almost universally accepted standard, rather than 1% or 3%? As Krugman (2014) points out, the number is not the result of a scientific process, but rather a political compromise. On the one hand, 2% seemed low enough for those worried about the costs of inflation. At the same time, it seemed high enough for those worried about interest rates hitting the zero lower bound (ZLB). The worry was that nominal interest rates close to zero may limit the central bank's capacity to stimulate the economy. In such a situation, monetary policy becomes ineffective and the economy falls into a liquidity trap. This concern as well as the well-known aversion of workers to accept nominal wage cuts (downward wage rigidities), made an inflation target of 0% - absolute price stability – seem unwise. Recent experience, however, shows that an inflation target of 2% is also an insufficient insurance against zero-lower-bound episodes. As Whelan (2013: 108) argues, “we know now that the liquidity trap is not a theoretical curiosity. Economies that operate at a 2% average rate of inflation are one recession away from the difficulties associated with falling into that trap.” Therefore, he and Krugman are joined by several other respected macroeconomists in their call for high-

er inflation targets (see Blanchard et al. 2010; Ball 2013). Despite such demands, however, central bankers seem a long way from reconsidering the conventional 2% target.

### ***Causes of inflation: real or nominal factors?***

I now turn to the crucial bone of contention: what causes inflation? If we want to control inflation, we need to have an understanding of the dynamics that lead prices to rise or fall. These dynamics are complex, to say the very least. As a consequence, the consensus view has changed considerably over time, with far-reaching consequences for the conduct of monetary policy. In the 1950s and 1960s, the Keynesian view was dominant among economists. According to this paradigm, inflation was caused by either ‘demand pull’ or ‘cost push’ dynamics. Demand pull inflation occurred when higher aggregate demand pulled up inflation: by pressing upon productive capacity demand was thought to bid up prices and wages. The idea of ‘cost push inflation’, then, approached the phenomenon from the other side of the equation: rising costs of production pushed prices up. There could be numerous factors initiating such a process, from powerful trade unions enforcing higher wages to rising costs for imports of intermediate products, such as oil from the OPEC countries (Singleton 2010: 186-187). A prominent version of the ‘cost push’ idea is the ‘wage-price spiral theory’ of inflation, focusing on wages bidding up prices. Because higher wages eventually led to higher prices, workers in an economy close to full employment could again demand higher wages to meet expected price hikes, thus initiating a self-sustained spiral of ever-rising prices which could in principle go on forever. It is important to note that both ‘demand pull’ and ‘cost push’ views of inflation assign little or no role to the government or the central bank. Inflation was driven by economic agents’ decisions. It was, crucially, driven by real economic variables. The government could attempt to stop the upwards spiral, for instance by regulating wage-setting, but the central bank had little or no role to play.

This view was nothing less than turned on its head by Monetarist ideas. Not only did they imply a completely different theory of how the economy works. They also assigned the responsibility for inflation to one institution only: the central bank. If inflation occurred, central bankers were simply not doing their job. This core idea of Monetarist inflation theory is best summarized by Milton Friedman’s famous quote that “inflation is always and everywhere a monetary phenomenon” (Friedman 1970: 11). This implied that inflation could only occur if the quantity of money increased faster than output. Inflation, then, was ultimately driven not by real economic variables – or human behavior – but by one nominal variable: the money supply. The core idea is simple and plausible. If the amount of money increases and the amount of goods and services remains the same, producers can successfully enforce higher prices. This, of course, was not thought to happen immediately. Friedman did account for long and variable time lags in monetary policy, stating that “we cannot predict at all accurately just what effect a particular monetary action will have on the price level and, equally

important, just when it will have that effect” (Friedman 1968: 15). Over the long haul, however, money growth in excess of production growth would inevitably lead to inflation.

While monetarism clearly spurred a “counter-revolution in monetary theory” (Friedman 1970), in practice it did not work as well. Due to its simplicity and the apparent problems of Keynesian policies to address the stagflation of the late 1960s and early 1970s, it was hugely successful in changing how economists thought about the economy and how central bankers tried to tame inflation. As *the Economist* (2006) puts it, for some time “a central banker who did not believe in monetarism would have been viewed as equivalent to a priest who admits to being an atheist”. As controlling the money supply was thought to be the route to low inflation, central banks around the world adopted targets for monetary aggregates. As Kirshner (1999: 611) concluded some thirty years later: “The practice of monetarism depends on two things: the ability to control the money supply, and a stable relationship between money and other macroeconomic variables. The last twenty years have convinced macroeconomists that neither is true”. Central bankers often found it hard to control the money supply because of the rather loose connection between base money and broad money (see chapter 4.1.3). Also, the relationship between inflation and money growth often did not conform to Friedman’s dictum. Regressions of inflation on monetary growth find that “the influence of money is either insignificant or unstable” (King 2003: 70).

As a consequence, central bank after central bank abandoned its monetary targets. Or, as Gerald Bouey, then governor of the Bank of Canada, famously stated: “we didn’t abandon the monetary aggregates, they abandoned us” (The Economist 2006). In search of a workable alternative, most central banks then followed the example of the Reserve Bank of New Zealand and started targeting inflation directly. There are, however, important exceptions to this rule. Among the few central banks that chose to keep an eye on monetary aggregates were the Swiss National Bank (SNB) the German Bundesbank, and, as a consequence, also the ECB. And, as detailed in chapters 2 and 3, the ECB still assigns the analysis of monetary developments a special role under its famous two-pillar strategy. These, however, are exceptions. The failure of monetarism to ultimately win the war on inflation led many central banks to drop their formal targets for monetary growth. While this meant that, somewhat oddly, money lost some of its prominence in practical monetary policymaking, central bankers did not go so far as to conclude that money did not matter for inflation at all. Monetary analysis continues to influence decision-making in all leading central banks (Stark 2006: 17). Seen this way, monetarism is not dead. Proponents argue that there never was reason “to expect a simple relationship between inflation and output and money growth in reduced form estimates” (King 2003: 71). Understanding the true role of money, Mervyn King further states, requires a theoretical model that allows for the central role of expectations (ibid.).

Today, many agree that the best predictor of *future inflation* is *expected inflation*. We thus return to Woodford's dictum that very little else than expectations matters in monetary policy. Inflationary or deflationary developments can, of course, initially be triggered by an exogenous shock such as a rapid rise or fall in oil prices. However, whether this development is sustained or choked off crucially depends on how economic actors respond to it (Blyth 2007: 87). This is what central bankers call *second-round effects*, e.g. when companies raise prices or workers successfully demand higher wages to compensate for higher food or energy costs. Thus, a main concern for central bankers is to 'anchor inflationary expectations' – and the formal adoption of an inflation target in quantitative terms serves this purpose. The relevance of having inflation expectations anchored is mirrored in central bankers' obsession with 'credibility'. Credibility implies achieving a reputation for being reliably committed to price stability, and inflation-targeters presume that such reputation is built more easily when a low inflation target in numerical terms is announced and followed (Cukierman 2007: 2). And in some way, it is theorized, a central bank can gain flexibility by establishing credibility. This is because market actors, who deem a central bank's inflation commitment credible, are unlikely to change their expectations of future inflation if current inflation fluctuates a bit. Therefore, a credible central bank attains "wiggle room to do some stabilization while still being faithful to the inflation target" (Reichlin & Baldwin 2013: 13).

In the two decades preceding the crisis, central banks appeared to have won the war on inflation. Average inflation rates were substantially lowered in the 1990s and 2000s – the 'Great Moderation' – and central bankers received a lot of praise. Some analysts, however, have cast doubt on whether they deserve all this praise or whether they enjoyed tailwinds which made the fight against inflation a lot easier. At the center of this question about non-policy factors causing disinflation is the debate about globalization. Arguably, the Great Moderation coincides with increased global competition in the markets for goods, services, and labor. And this increased competition, which is beyond the command of any central banker, is likely to have contributed to lower wages and prices (see Borio & Filardo 2007; Gamber & Hung 2001). Through the rise of emerging economies like China and India, for instance, new workers with low salaries enter the global economy, driving down both import prices and – to a lesser extent – domestic wages. Others argue that the more important effect of global competition is not a direct one. This line of reasoning focuses on the political economy of globalization. Since competition does not only reduce overall price levels, but also has the tendency to make prices and wages more flexible, Rogoff (2004) argues, it moderates the effects of monetary policy on output. Because of this, there is less reason for central banks to inflate. Through this indirect effect, then, globalization has enhanced the anti-inflation credibility of central banks and thereby contributed to lower prices. While the precise impact of globalization on inflation dynamics is disputed (see Lopez-Villavicencio & Saglio 2014), this debate serves as a useful reminder that there are

numerous factors outside the control of central banks which may exert an influence on the prices we pay.

### ***Deflation***

The main threat that central bankers face in 2015, however, is deflation rather than inflation. While the dangers of deflation had almost been forgotten before the Great Recession, they now dominate the conversation again. Central bankers disagree, however, whether deflation is only a remote threat or already a reality. Apparently, the definition and measurement of what constitutes a deflation is even less straightforward than that of inflation. So how do we recognize a deflation when we see one? In principle, this should be easy: when prices are falling. An environment with price growth below zero should therefore be one of deflation. Central bankers and analysts have, however, come up with new labels and descriptions for different degrees of disinflation, including ‘lowflation’ (IMF) or deflation as “a pernicious negative spiral” (Draghi 2014). Such labels are politically relevant, as they imply different degrees of urgency and may therefore provide different signals regarding the need to act.

The ECB president, for instance, has defined deflation for the Euro Area as “a self-fulfilling fall in prices across a very large category of goods and across a very significant number of countries” (Draghi 2013b). Apart from the question of what constitutes a significant number of countries, the emphasis on the self-fulfilling nature of price declines is striking. It shifts attention away from actual measures of consumer price changes and underlines the relevance of inflation expectations. Adopting this definition may allow a central bank to neglect negative price growth – deflation – as long as such a development is caused by exogenous factors such as a decline in energy prices. Only if declining inflation expectations signal second-round effects, or the beginning of a ‘pernicious negative spiral’, the central bank is really called to arms. The opposing position is that this may be too late. In light of monetary policy’s long time lags, there is a need to act forcefully *before* a self-sustained downward spiral materializes (Moghadam et al. 2014). Otherwise, a central bank may find it very difficult to later reverse the trend. In this light, it is also highly relevant what measure of inflation expectation you choose. While central banks tend to focus on long-term inflation expectations, Moghadam et al. (2014) insists that also nearer-term expectations can feed into spending and wage decisions. And such deflationary tendencies can already be triggered by an environment of ‘lowflation’, that is: of inflation above zero but well below the standard target of 2%.

### ***Cui bono?***

Concluding this section, I wish to underline how different situations of inflation and deflation are. They imply very different background conditions for monetary policy-making. Possibly even more important, they benefit different groups of people – and therefore create very different politics. A deflationary environment resembles a multi-

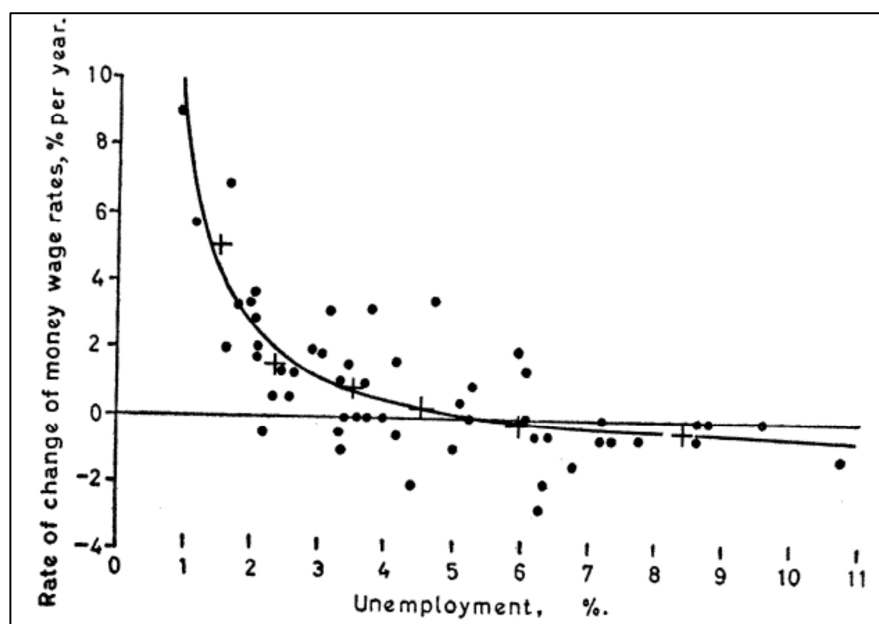
person prisoner's dilemma, since individually rational behavior leads to a situation that is collectively disastrous (Blyth 2007: 80). For instance, when a worker tries to protect himself from unemployment by accepting lower wages, this decision keeps the downward spiral going and, thus, serves to worsen the overall situation. In short, everybody loses in deflations. And it takes a third party to step in and stop the self-fulfilling prophecy of ever lower prices and wages by allowing for coordination. Inflation, on the other hand, knows losers as well as winners. It depends on the assets you hold in which you will find yourself. Therefore, inflation is "at the same time less ambiguous and more political than deflation" (ibid: 82). It benefits borrowers over creditors, because it reduces the real value of debt.

The popular dictum that inflation is bad for everyone, then, is more political strategy than empirical reality. It probably derives its appeal from the horrors of hyperinflation in people's minds. If inflation figures become highly variable and go well into the two digits, this has real economic costs. Such a development clearly reduced the informational role of prices and creates uncertainties that distort economic activity (Kirshner 1998: 73). For instance, lending becomes very risky and less profitable. Therefore, credit rationing occurs, limiting investment and economic activity (Boyd & Champ 2006). Below such very high levels of inflation, however, welfare costs of inflation are hard to find. An empirical study did not even find a negative impact of inflation on growth for inflation rates below 20% (see Barro 1996). In this light, Kirshner (1999: 613) states that inflation-targeting has been successful *on its own terms* only. The autonomous, inflation-targeting central bank has successfully reduced inflation. There is no evidence, however, that this strategy has also helped real economic performance in terms of superior growth rates or employment figures. At the same time, the financial crisis of 2007/08 has clearly demonstrated that price stability does not guarantee financial stability. In this situation, central bankers note with great disquiet that "the consensus on the merits of price stability is fraying at the edges" (Borio 2014: 18). If low inflation rates are less and less seen as an end in itself, central bankers may increasingly face pressures to stabilize economic output and the financial system. Therefore, the following two subsections illustrate how the conversations about these two potential objectives of central bankers have evolved.

#### **4.2.2 Supporting growth and employment**

Whether – or how – monetary policy can contribute to economic growth is arguably the most politicized issue of central banking. Even more controversial than debates about the nature and causes of inflation, the relationship between inflation and output constituted the core of disputes between Keynesians and Monetarists in the 1960s and 70s. Or, as James Tobin put it in his presidential address to the American Economic Association in 1972: "Unemployment and inflation still preoccupy and perplex economists, statesmen, journalists, housewives, and everyone else. The connection between

them is the principal domestic burden of presidents and prime ministers, and the major area of controversy and ignorance in macroeconomics” (Tobin 1972: 1).



**Fig. 4.2:** *Wage inflation and unemployment in the United Kingdom, 1861-1913 (Phillips 1958: 285)*

At the heart of these debates is the so-called Phillips curve. Examining the relationship between wage inflation and unemployment in the United Kingdom from 1861 to 1957, A. W. Phillips (1958) found a stable inverse relationship: when wage inflation was high, unemployment was low and vice versa (see figure 4.2 above). Phillips put forth a simple and plausible explanation of demand and supply in labor markets: with a lower unemployment rate the labor market got increasingly tight and companies had to raise wages in order to attract scarce labor. And if companies' costs rise, so will eventually the prices of their products. At higher levels of unemployment, companies were not facing such pressures – and therefore wage and price growth slowed down (Phillips 1958: 283). In light of such a downward-sloping Phillips curve, there clearly seemed to be a trade-off. Politicians could simply choose their preferred combination of inflation and unemployment. If a little more employment came at the cost of a little more inflation, there was a (fundamentally political) choice to be made.

Economic thinking about the Phillips curve changed drastically in the 1970s. Initially it greatly inspired academic work, and – given the close fit between estimated curves and the data in numerous countries – central banks decision-making as well. At the height of its popularity, however, the Phillips curve came under attack. Two influential theoretical contributions by Phelps (1967) and Friedman (1968) aimed at undermining the plausibility of a stable Phillips curve trade-off. The main argument was that such trade-off was *only temporary*. In Friedman's own words: “there is always a temporary trade-off between inflation and unemployment; there is no permanent trade-off”



(Friedman 1968: 11). Key to this line of reasoning is, again, the role of expectations: monetary growth may initiate an economic stimulus and, thus, lower unemployment in the short-run; over the longer term, however, people adapt their expectations, thus offsetting the initial stimulus. This is because after some time with higher inflation and lower unemployment, employees recognize that prices are rising and demand higher nominal wages to compensate for this. When workers as well as employers take inflation into account, then, employment contracts will increase wages at the rate of expected inflation. In Friedman's account, then, there is no money illusion: rational workers look at real rather than nominal wages and react to changes in real wages accordingly. And there is nothing a central bank can do to offset this. Because, as Friedman puts it, even if "the higher rate of monetary growth continues, the rise in real wages will reverse the decline in unemployment, and then lead to a rise, which will tend to return unemployment to its former level" (ibid: 10).

Friedman's message is simple and clear: in the long run, *monetary policy simply cannot lower unemployment*. If an expansionary monetary policy is employed to stimulate growth and create jobs, unemployment will inevitably return to its initial level after some time. In the end, we arrive at the same level of unemployment – which Friedman calls the 'natural rate' – only at higher levels of inflation. If we adopt a longer-term perspective, then, the Phillips curve becomes increasingly vertical. In essence it is a vertical line above the 'natural rate of unemployment'. While the term 'natural rate' has attracted criticism because it seems to imply that this rate is socially optimal or unchangeable, this is not what Friedman means.<sup>72</sup> The rate is man-made, or better: policy-made, and can therefore be changed, for instance by improving employment exchanges or the availability of information about job vacancies. In short: governments can reform labor and product markets when unemployment becomes an issue. But they cannot – and should not – resort to monetary policy.

According to the Friedman view, central bankers can thus help economic development in only two ways. First, they can prevent money from being becoming a source of economic disturbance itself by refraining from attempts to stimulate the economy; attempts which were doomed to fail anyways. And, second, by following this rule, central bankers could guarantee a stable background for the economy. Because when price stability prevails, everybody can act with full confidence that the average level of prices will be highly stable. As this reduces transaction costs, monetary policy can contribute to keeping the economic engine well oiled (ibid: 13). In short, Friedman holds that price stability is the only thing monetary policy can achieve – and if it tries to do

---

<sup>72</sup> The term has still been replaced because it evokes such connotations. Economists now use the term 'non-accelerating rate of unemployment' (NAIRU) when referring to the level of unemployment below which inflation is believed to rise. The NAIRU should not vary when monetary and fiscal policies change, because they affect aggregate demand without altering the so-called real factors affecting the supply and demand for labor, such as demographics, technology, or union power (see Hoover 2008).

more, it risks failing even on that front.<sup>73</sup> The prescription is equally clear: the central bank should avoid interfering with market dynamics.

It is hard to overstate the significance of this altered understanding of the Phillips curve. Charles Goodhart, professor emeritus at the LSE and former member of the Bank of England's Monetary Policy Committee, called it "the most crucial change that has occurred in our thinking about the working of the macroeconomic system" in his lifetime (Goodhart 2003: 65). This change in thinking fundamentally changed central banking for a number of reasons. Not only did Friedman's dictum fit the era's political mood against an activist state. Also, developments of the following years seemed to prove it right. In the 1970s, many developed countries experienced high levels of both inflation and unemployment at the same time. Theories based on the original Phillips suggested that such a phenomenon, known as stagflation, simply could not happen. Thus, as the Phillips curve relationship broke down, so did Keynesian prescriptions for monetary policy. Also, the way the argument was framed arguably helped the revolution in central banking as well. Arguing that something *should not be done* is one thing. But it arguably is quite another to state that something *cannot be done*. If accepted, such an argument leaves little room for alternatives. And so the Monetarist doctrine became almost universally accepted within one decade. For instance, Paul Volcker summarized the "current prevailing wisdom" as the realization "that reliance on a trade-off between unemployment and inflation was a great mistake [and] that the inverse correlation could not hold once inflation became anticipated" (Volcker 1994: 31). In line with his statement, Volcker dramatically changed the Fed's conduct of monetary policy in the early 1980s to an inflation-is-all-that-matters approach (Blyth 2002: 167-172).

It is important to note that this radical policy change is rooted in an altered understanding of economic behavior, and, most importantly, the role and nature of actors' expectations. In a way, the consensus went from money illusion to rational expectations (see section 4.1.4 above). Adopting a view of well-informed and rational actors meant that only a miscalculation or a complete monetary surprise could affect output (Singleton 2010: 188). A different reading of Friedman and Phelps, then, contends that inflation can stimulate output and employment only to the extent that it is unexpected (McCallum 2008). All this means that the shape of the Phillips curve crucially depends on how expectations are modeled. After all, the triumph of monetarism did not cause the death of the Phillips curve. In its 'expectations-augmented' version, the Phillips curve was and remains a fundamental tool for macroeconomic forecasting. And since even new classical economists committed to rational expectations accept that wages

---

<sup>73</sup> In Friedman's own words: "I fear that [...] we are in danger of assigning to monetary policy a larger role than it can perform, in danger of asking it to accomplish tasks that it cannot achieve, and, as a result, in danger of preventing it from making the contribution that it is capable of making." (Friedman 1968: 5)

and prices are somewhat sticky, it is not thought to be completely vertical (Hoover 2008).

Interestingly, more recent data resembles Phillip's original observations. In the United States from 2000 to 2013, there is a simple inverse relationship between inflation and unemployment (Wren-Lewis 2014a). This, again, may be explained with expectations: if the 'Great Moderation' had the effect of firmly anchoring inflation expectations, this would make monetary policy an effective tool for influencing output again. Since actors who are convinced that a central bank lives up to its preannounced inflation target do not adjust their expectations of future inflation in response to short-run deviations of actual inflation, such deviations are not anticipated and can have a real impact. And the even more recent episodes of unconventional monetary policies display a relationship, which could not be any more different, as Gavyn Davies (2013) notes:

*"Increasingly, central bankers are reversing the orthodoxy of the past several decades. Previously, they have followed Milton Friedman in treating the long-run Phillips Curve as vertical, which meant there would be no output gains in exchange for higher inflation if monetary policy were eased for prolonged periods. Now, they are edging towards a world in which the Phillips Curve is horizontal, so monetary easing is reflected in output increases, with no rise in inflation."*

Once again, fundamental questions on the nature of inflation and its relationship to economic activity are debated. Much of the certainties of the recent past have become unsettled, and the central banking community displays a rare episode of open dissent. And what is more, with financial stability potentially becoming another aspect to be considered in monetary policymaking, the simple days of the Great Moderation are unlikely to come back anytime soon.

#### **4.2.3 Providing financial stability: to lean or not to lean?**

Central bankers only rediscovered financial stability very recently. After the financial crisis, however, the interconnectedness of financial stability and price stability concerns quickly became one of the most contentious issues, feeding rare conflicts in central banking circles. Considering the blame central bankers took for having helped the crisis by carelessly ignoring financial imbalances, their (renewed) focus on this issue is hardly surprising. This is especially true because criticism did not stop at failures of banking supervision. Also, the role of monetary policies single-mindedly focused on price stability came increasingly under scrutiny. While, for instance, Fed policymakers did notice relevant developments in financial markets prior to 2007, they were seemingly unconcerned about them (Golub et al. 2014). Consequently, voices demanding central bankers to consider changing asset prices grew increasingly louder after the crisis.

To be sure, contributing to financial stability has long been regarded as a central bank's duty. Prior to the crisis, however, financial stability was "often viewed as the junior partner to monetary policy" (Bernanke 2011: 5). However, this did not mean that financial stability was regarded unimportant. The dominant view – dubbed the *Jackson Hole Consensus*, because it was repeatedly presented at that conference (Issing 2011a: 5) – simply was that maintaining price stability was the best central bankers could do to contribute to financial stability. It was widely held that one could simply not hope to head off bubbles because they were too hard to identify. After all, it is hard to determine whether rising prices are driven by "irrational exuberance" or rational valuations of economic fundamentals. Therefore, targeting financial imbalances was perceived as risky, if not impossible, endeavor. Risks were associated with misdiagnosing bubbles, collateral damage of using 'blunt' monetary policy instruments to fight them,<sup>74</sup> and the harm pre-emptive bursting of bubbles could cause. Because of this, there was a strong consensus that central bankers should focus on price stability and keep an eye on changing asset prices only to the extent that they affected the bank's inflation forecast (Bernanke & Gertler 2001: 253). And if this was not enough to prevent financial imbalances from emerging, central banks were told to focus on cleaning up the mess after the storm had passed. This means they should respond to declining asset prices *after* a bubble had burst in order to stabilize output and inflation. In other words, as "leaning against the wind" *ex ante* was impossible or, at least, very costly, central banks should focus on "cleaning", i.e. limiting the damage *ex-post*.

The Jackson Hole Consensus also had important implications for the relationship of monetary and prudential policy. Assigning financial stability concerns to the microprudential instruments and focusing monetary policy solely on the pursuit of consumer price stability implied a strict separation between the two realms. This neatly corresponded with the praised Tinbergen dictum (Tinbergen 1952) that one policy instrument (a variable that policymakers can control directly, e.g. the short-term interest rate) should be assigned to one policy objective only (the variable policymakers wish to influence but cannot command directly, e.g. price stability). This is because achieving two different objectives with the use of the same instrument inherently involves a risk of conflict between the two goals.

The crisis, however, was a painful reminder that this clear separation does not hold in practice. It showed that monetary policy and financial stability are intrinsically linked, and that neglecting this by downplaying a central bank's financial stability functions runs serious risks. As a consequence, prominent central bankers like the ECB's Peter Praet came to regard the belief that monetary and microprudential policy can be conducted separately as a "flaw in the intellectual underpinning" (Praet 2011) of pre-crisis central banking. And as the crisis exemplified that the economic costs of cleaning in-

---

<sup>74</sup> Collateral damage can be expected in terms of losses in output and employment, as strong increases of interest rates are needed to mitigate upward developments of asset prices (Issing 2011a: 7).

stead of leaning can be very large, many felt that “just cleaning up is no longer an option” (Smets 2014: 292).

Already before the crisis, the Bank of International Settlements (BIS) had pointed out that price stability sometimes might not be enough. In an important paper published in 2006, the BIS’ Head of the Monetary and Economic Department, William White, demonstrated that recent economic history is full of examples of financial crises that were not preceded by inflationary pressures (White 2006). This, he argued, demanded central bankers to pay more attention to the longer-term effects of their policies. The crisis, then, confirmed his concerns faster and in a more drastic fashion than he had probably ever envisioned it himself. It demonstrated two crucial aspects: first, the built-up of the crisis during presumably calm days showed that preserving price stability alone is insufficient to guarantee financial stability; and, second, strong disinflationary pressures after the crisis exemplified how financial instability can have negative feedback effects on price stability itself.

In the light of recent events, then, it is an interesting question why financial stability became neglected in the first place. Parts of the answer may be found in the intellectual leadership of Alan Greenspan, *the Maestro*, arguably the world’s most influential central banker of the past decades. While chairman of the Fed, he persistently argued for cleaning instead of leaning (e.g. see Greenspan 2002). This is why the Jackson Hole Consensus is sometimes also termed ‘*Greenspan doctrine*’ (see Mishkin 2011: 60). His legacy in this regard was benevolently interpreted by colleagues, for instance when evaluating the years 2000-2002 as successful real world test of the cleaning strategy. As Blinder and Reis (2005) hold, the bursting of the dot-com bubble – the biggest bubble in history by then – was followed by only a small recession and did not lead to the failure of a single sizable bank. Consequently, they found fears that the cleaning strategy will prove insufficient “unfounded” and asked rhetorically that if the strategy “worked this well after the mega-bubble burst in 2000, shouldn’t we assume that it will also work well after other, presumably smaller, bubbles burst in the future?” (Blinder & Reis 2005: 68). They did assume that – and so did almost everybody else until 2007. When concerns about the cleaning strategy proved not to be that unfounded in 2007, the *Financial Times* pointed out two other crucial factors for disregarding financial stability: the power of big banks and low risk awareness in good times: “*Over the past 40 years, then, the guardians of financial stability within central banks have lost power to markets and to international commercial banks. Most of all they have lost power to the monetary policymakers within their own institutions. Monetary policy is high profile and of constant interest; financial stability hits the headlines in a crisis once or twice each generation. The risk that it becomes a backwater is constant.*”<sup>75</sup>

---

<sup>75</sup> “The Conundrum of Financial Stability”, *Financial Times*, 19 June 2008

The crisis, then, changed all that in demonstrating the high costs of the cleaning strategy and the close links between monetary policy and financial stability. But it is one thing to point out the interrelatedness of price stability and financial stability that seemingly invalidates the Jackson Hole Consensus, and another thing to solve the problems this entails. While only few central banks actually have a clear mandate to pursue financial stability (Davies & Green 2010: 59), hardly anyone questions today that they should do their best to prevent systemic financial crises. The crucial question then is *how far* financial stability concerns should influence monetary policy decisions. And the answer to this question is critically influenced by how one believes that monetary policy actually *does* impact financial stability. Few doubt that it does, but there is nothing close to a consensus as to what extent and how. These uncertainties have sparked extensive research activities in recent years, collecting “evidence that the standard monetary policy stance intimately interacts with important drivers of financial imbalances such as credit, liquidity, and risk taking” (Smets 2014: 292). However, the evidence is far from being comprehensive and unambiguous. Consequently, much uncertainty remains and we witness a wide array of views about how central bankers should take financial stability concerns into account when setting monetary policy.

This range of perspectives is nicely summarized by the ECB’s Frank Smets (2014), who distinguishes three paradigms (see figure 4.3 below): As the name suggests, the ‘*Modified Jackson Hole Consensus*’ remains close to pre-crisis orthodoxy in that it holds that monetary and prudential policy can easily be separated. It puts a lot of faith in newly emerging macroprudential approaches and assigns macroprudential authorities the task of guaranteeing financial stability (e.g. by means of higher capital requirements). Thus, the modified consensus maintains that monetary authorities should keep a narrow focus on price stability, because the short-term interest rate is not a very effective instrument to deal with financial imbalances (Smets 2014: 269). In short: no leaning!

	Modified Jackson Hole Consensus	Leaning against the Wind Vindicated	Financial Stability Is Price Stability
<b>Monetary Policy</b>	Framework largely unchanged.	Financial stability as secondary objective; lengthening of horizon.	Twin objectives on equal footing.
<b>Macroprou.</b>	Limited effects on credit and risk taking.	Affects risk taking.	Unblocks balance sheet impairments; avoids financial imbalances in upturns.
<b>Interaction</b>	Blunt instrument to deal with imbalances.	“Gets in all of the cracks.”	Indistinguishable from monetary policy.
<b>Issues</b>	Granular and effective.	Cannot fully address financial cycle; arbitrage.	Financial stability and price stability are intimately interlinked.
<b>Models</b>	Limited interaction and easy separation of objectives, instruments, etc.	Financial fragility affects monetary transmission and price stability.	
	Coordination?	Coordination?	Time-inconsistency problems?
	Lender of last resort?	Overburden mon. policy?	
	Svensson; Collard et al. (2013)	Borio; Woodford (2012)	Brunnermeier and Sannikov (2012)

**Fig. 4.3:** Three views on financial stability (Source: Smets 2014: 268)

The second view departs from the old orthodoxy in important ways and believes *leaning against the wind to be, at times, vindicated*. Proponents of this approach share two beliefs regarding the interaction of monetary policy and financial stability: first, monetary policy affects risk-taking behavior of market actors and, therefore, conditions for financial stability; and, second, financial instabilities negatively affect the transmission process of conventional monetary policies. This suggests modifying flexible inflation targeting frameworks in a way that “financial stability concerns are taken into account in deciding on the optimal adjustment path for inflation” (ibid: 272). However, they remain a secondary objective of monetary policy, which continues to focus on price stability.

A third view, dubbed ‘*Financial Stability Is Price Stability*’ marks a much more radical departure from the old consensus. It believes financial and price stability to be so closely intertwined that distinguishing the two is impossible. Smets cites Alan Blinder as prominent voice holding that “there is no price stability without financial stability”. Willem Buiter (2012: 1) is even more pronounced when stating that “systemic financial stability trumps price stability or macroeconomic stability every time - anywhere.” Both point out the importance of a well-working financial system for an effective transmission process. It also underlines that maintaining financial stability reduces the probability of systemic stress and therefore the probability that monetary policy becomes constrained by the zero lower bound (ZLB) in the first place. Consequently, proponents of the third view suggest a major overhaul of existing policy frameworks as they want monetary policy to pursue price stability and financial stability as coequal objectives.

It is an open debate. Recent publications suggest that the first and the third view, little change and radical change, are rather minority positions, while most fall somewhere in between. This in between-position usually involves recognizing financial stability as a central bank’s core objective, but seeing it clearly secondary to price stability. Ben Bernanke, for instance, states that the restoration of financial stability policy to coequal status with monetary policy will be “one of the most important legacies of the crisis” (Bernanke 2011: 5), but finds monetary policy “too blunt a tool to be routinely used to address possible financial imbalances” (ibid: 12). However central bankers rank objectives, they do recognize that the potentially conflicting goals of price stability and financial stability can make their jobs much harder than they were in the past.

It is a heated debate, too. A good example of the controversies it sparks is the unusually harsh conflict between the BIS and most of its member central banks about raising rates in 2014, displaying “two very distinct intellectual strands in the central banking community” (Davies 2014a). In response to sharp increases of asset prices following extended periods of expansionary policies, some leading BIS-figures made the case for tightening. They argued that loose monetary policy artificially inflates asset prices while being increasingly ineffective in boosting growth. This view was rejected by the

IMF, the Fed and most major central banks (Bershidsky 2014). The BIS view was based on a balance sheet view of the economy, emphasizing the importance of the financial cycle. Interpreting recent events through this lens, the financial crisis was helped by too low interest rates triggering credit expansion and ever-rising asset prices. In this view, monetary policy before the crisis has long been asymmetric: eased substantially during downturns while only modestly tightened during upturns (ibid.). The asymmetry of this strategy is also being accused of potentially creating moral hazard by being passive during the build-up of a bubble and announcing its role as a savior after the bubble bursts (Issing 2011a: 5). Consequently, the BIS calls for a more symmetric approach, leaning more deliberately against booms and easing less aggressively during busts (Borio 2014: 18).

The major central banks perceive the run-up to the crisis quite differently. Generally, they hold that interest rates have not been too low over the long term and stress that higher rates in the 2000s would have done little to prevent the formation of bubbles in housing and credit markets – unless they would have been much higher with adverse effects on output. As the Fed’s Janet Yellen (2014: 5f) states: “a very significant tightening, with large increases in unemployment, would have been necessary to halt the housing bubble.”

The episode shows how different views about today’s monetary policy are – and how the diverse perspectives are rooted in different interpretations of the past. It also shows that there is, at least occasionally, a tradeoff between financial stability and price stability. Analyzing policy regimes from the classic gold standard until the post-Bretton Woods era, Borio (2014: 7) shows that “no policy regime in history has simultaneously achieved sustained monetary and financial stability”. And while there has been significant progress on the front of macroprudential policy lately, it appears unlikely that it alone is enough to ensure financial stability. One source of doubt regarding the effectiveness of macroprudential tools is political: “prudential supervision is often subject to more political pressure than monetary policy” (Mishkin 2011: 65). The watering down of the Basel III regulation for capital requirements is a recent case in point. Therefore, permanently overcoming the trade-off between monetary and financial stability and attaining both simultaneously “is likely to remain beyond reach” (Borio 2014: 4). For central bankers facing the contrasting needs of the real economy and the financial sector in a balance sheet crisis, this presents a real dilemma (Davies 2014a).

All this shows that the proper role for financial stability objectives in monetary policy frameworks remains contested, spurring heated debates between the world’s leading macroeconomists. As linking monetary policy to various forms of systemic risk “poses severe intellectual challenges” (Praet 2011), there is nothing close to a consensus as to how this link should be established. The issue of financial stability also underlines that many challenges for monetary policy loom even larger in bad times. As the discussions in post-2007 economies suffering from low aggregate demand show, concerns



about output stability further complicate the picture, demonstrating that the issue of financial stability is even more controversial during busts (Borio 2014: 12). It is these special conditions of monetary policy during economic downturns that I now turn to. The following section discusses perspectives as to how the conditions of a depressed economy constrain the workings of conventional policies, and whether unconventional tools can help to overcome these limitations.

### **4.3 Monetary policy in hard times: experimenting in uncharted territory**

In normal times, the short-term interest rate is not only the central banker's single most important tool; it is his only tool. Monetary policy is interest rate policy. Therefore it has become commonplace to model monetary policy using Taylor rules. Faced with the severity of the 'Great Recession', however, central bankers' conventional ammunition was quickly exhausted. Most central banks quickly cut interest rates until they hit the zero lower bound (ZLB) – the ECB being the notable exception that inspired this study. With interest rates at zero, then, conventional monetary policy had lost its powers. The normal credit channel is impaired by conditions of a *liquidity trap*. This "awkward condition in which monetary policy loses its grip because the nominal interest rate is essentially zero" (Krugman 1998: 137) arguably describes the situation of most developed economies in 2010-2014 quite accurately. With the nominal interest rate at zero, money and bonds become almost perfect substitutes. This implies that there is no opportunity cost in holding cash rather than bonds – and therefore banks are likely to hold central bank injections of money as a cushion rather than to increase lending (Hausken & Ncube 2013: 6).

What is more, central bank's analytical tools have proven to be unsuitable for such conditions as well. In particular, models of the money supply have assumed the transmission mechanism to work smoothly at all times. This is reflected in the survival of a mechanistic money-multiplier in monetary theory, which implies that if the central bank increases the supply of base money, the banking system will automatically upgrade the supply of credit proportionally (Bofinger & Debes 2010: 2). This thinking is reflected in central bank's models as well, which often do not model the interplay between the central bank and the banking system. The ECB's model for forecasting and policy analysis, for instance, does not include a financial sector at all (see Christoffel et al. 2008). Recent experience shows, however, that the financial crisis has fundamentally impaired the transmission mechanism. The credit channel, in particular, ceased to function as commercial banks tended to use cheap central bank money to repair their own balance sheets after the crisis, rather than making it available to the real economy. Thus, central bank's very low rates failed to spur bank lending.

Both the ZLB and the breakdown of the transmission mechanism obviously complicate monetary policymaking sharply. If they are to have any effect on economic conditions, central bankers are forced to innovate in such a situation. They need to come up

with new, often untested, tools. And while they have a wealth of data at their disposal to analyze how interest rate changes affect economic activity under various circumstances, they cannot draw on experience with unconventional monetary policy. Therefore, they cannot possibly know whether a particular unconventional policy will work, how it will work, or what side-effects it may create. They are “mostly artfully improvising [...] as they go along” (Jones 2014: 7). In other words, central bankers are flying blind.

### ***Quantitative Easing: printing money?***

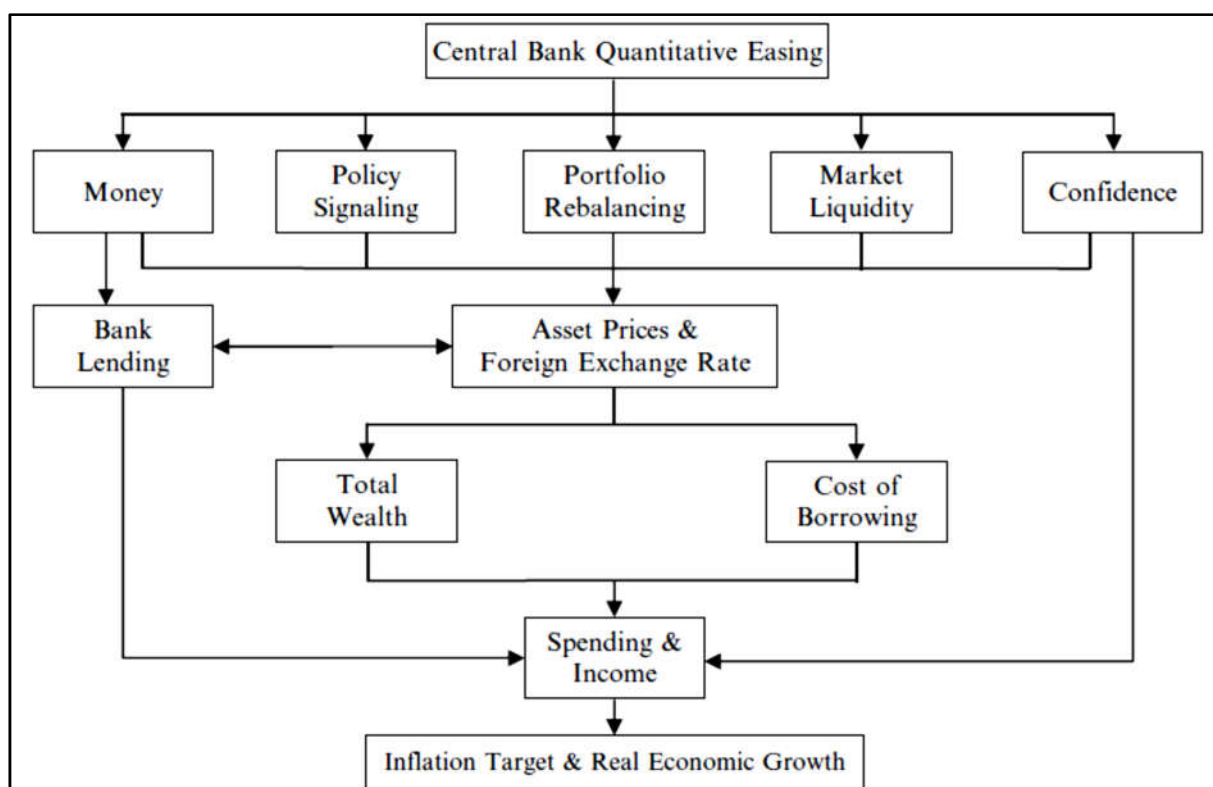
As pointed out in the beginning of this chapter, a central bank can in principle do two things: influence either the price or the quantity of money. When interest rates were cut to zero, the price avenue was exhausted. Then, the central bank can only try to target the quantity of money by buying assets directly – which is what the name quantitative easing refers to. Quantitative easing (QE) has certainly become the most popular and, at the same time, the most controversial unconventional tool that central bankers have resorted to. Given the great emphasis on QE in the United States, many commentators even claim that it has effectively replaced interest-rate policy as the Fed’s main instrument (Cúrdia & Woodford 2009: 1; Gambacorta et al. 2012: 2). QE can mean many things, however. As Blinder (2013: 248-256) points out, QE has become an umbrella term encompassing a variety of ways to use the central bank’s balance sheet in order to improve credit conditions. As QE operations can either attempt to change the *size* or the *composition* of a central bank’s balance sheet, and central banks can purchase either government bonds or private-sector securities, Blinder distinguishes four varieties of QE (see table 4.2 below).

	<b>Composition of balance sheet</b>	<b>Size of balance sheet</b>
<b>Government securities</b>	“Operation Twist“	Direct QE; Sovereign QE
<b>Private-sector securities</b>	Qualitative Easing	Credit Easing

**Table 4.2:** *Four Varieties of Quantitative Easing (Source: Blinder 2013: 249)*

The core idea of QE is clear: the central bank buys assets in order to provide liquidity to ailing financial sectors. As a consequence, more reserves are made available to commercial banks – and the hope is that they will make use of them by increasing their lending to the real economy. As Blinder emphasizes, this can happen in several ways. QE is usually associated with a growing balance sheet. It can, however, also attempt to improve financial conditions by only altering the composition of the central bank’s balance sheet, e.g. by selling highly liquid assets (such as Treasury bonds) to banks and taking on less liquid assets in return. Much more common, and more controversial, is QE as ‘money printing’ – meaning operations that increase the size of the central bank’s balance sheet. Here, the central bank creates new bank reserves (base money) to buy assets from banks and thus provides them with fresh liquidity.

Given the lack of experience, nobody really knows how QE works. One much-quoted statement made by Fed-chair Bernanke exemplifies that: when asked about his confidence that the policy would deliver the desired effects, he replied: “The problem with QE is it works in practice, but it doesn’t work in theory.” Yet while there may not be a well-established and recognized theory central bankers could resort to, many ideas about *how QE might work* were put forth. It was discussed that QE could potentially improve financial conditions in a various ways, which include portfolio rebalancing effects, liquidity effects, signaling effects, and the exchange rate channel. Many central bankers pursuing QE programs placed their bets on *portfolio effects* (e.g. see Bernanke 2012). The idea is that, generally speaking, large-scale purchases of government bonds by the central bank drive down bond yields. As this makes sovereign bonds less attractive to investors, it should push them into investing in more risky assets. They have an incentive to rebalance their portfolio towards other asset classes such as corporate bonds, thereby financing more activities in the real economy.



**Fig. 4.4:** Potential Transmission Channels of QE (Source: Hausken & Ncube 2013: 6)

This portfolio effect could also play out in a more indirect way, namely via the *exchange rate*. For the case of the Eurozone, consider that investors who are pushed out of the market for sovereign bonds because of the ECB’s purchases have two options: they can either invest in private sector activities within the Eurozone or invest elsewhere, outside of the Eurozone, instead. If they opt for the latter, the outflow of capital pushes down the exchange rate, thereby stimulating exporting industries at home. Because QE has had a sizable impact on exchange rates, it is reminiscent of old debates surrounding ‘currency wars’. Indeed, QE has attracted harsh criticism as a means of

protectionist devaluation from economists and politicians like the Brazilian Finance Minister Guido Mantega (see Moschella 2015: 134). Faced with such accusations, central bankers pay lip-service to G20 commitments to avoid currency manipulations by stressing that they do not target the exchange rate. After all, competitive devaluation is ultimately a zero-sum-game.

Even if they do not intentionally manipulate the exchange rate, QE programs have had such a sizable impact on currencies' external values that many believe that this may actually be the most effective channel for QE to work. Even though beggar-thy-neighbor policies are officially frowned upon, central bankers with a mandate solely focused on domestic conditions may have no other choice. As Odendahl (2014) points out, "most other transmission channels of monetary easing do not seem to be working as expected or hoped" and therefore "the currency remains an important way to stimulate the economy". In a similar vein, Mario Draghi has stressed that "the exchange rate is not an ECB policy target, even if the exchange rate is important for price stability and growth" – stating further that a weak exchange rate of the Euro was "a natural outcome of diverging monetary policy paths in the US and the euro area" (Draghi 2015a).

Finally, QE can be regarded as a *signaling* device. Several studies have found that bond purchase programs in the US and the UK had their greatest effect at their announcement, while the actual implementation of these programs had much smaller effects on bond yields (see Joyce & Tong 2012; D'Amico & King 2013). This leads us back to the crucial importance of inflation expectations. If QE's 'real' effects are rather small, it may only work if it is understood by markets as a credible signal of the central bank's future intentions. Following Eggertsson & Woodford (2003: 200), this requires the central bank to credibly commit to keeping interest rates low *even after the recovery*. Krugman (1998: 139) has called this 'credibly promising to be irresponsible', meaning to seek a higher future price level. It has been argued that QE serves such a purpose. It credibly signals a commitment to keep interest rates low in the future, because if the central bank hiked rates later it would suffer sizable losses on the assets it purchased (Hausken & Ncube 2013: 6).

### ***Forward Guidance: is talk cheap?***

There is certainly more than one way to make credible commitments regarding the future path of monetary policy. The most obvious alternative to using QE as a signaling device is communication. It is also much simpler. The central bank can try to influence market expectations regarding the future path of short-term interest rates by promising to hold them at a particular level for a, more or less explicitly, pre-defined period. To do so, the central bank only includes some words in its announcements and the market does all the work – provided the verbal commitments are believed. If they are believed, expected lower interest rates for the future should encourage private agents to substitute for current consumption, thereby providing an economic stimulus

in the present (see Bihari 2017). Given the low costs associated with this, it doesn't come as a surprise that most central banks resorted to some form of forward guidance to influence inflation expectations in the crisis. As a consequence, their communication practices have come under (even) closer scrutiny.

The Federal Reserve, for instance, has changed its language on the likely course of future interest rates several times over the period 2009 to 2013, while actual rates remained unchanged at the ZLB. First, it stated that economic condition would likely warrant “exceptionally low levels of the federal funds rate for some time” – until ‘some time’ was replaced with ‘an extended period’. In August 2011, it changed this again by specifying a particular calendar date with ‘at least through mid-2013’, which eventually became ‘late 2014’ and then ‘mid-2015’ (calendar-based guidance). Finally, the link to specified dates was replaced by framing forward guidance in terms of economic conditions (data-based or outcome-based guidance), tying future rate hikes on reaching specified figures for unemployment (above 6.5%) and the inflation forecast (at or below 2.5%, see Plosser 2013: 4). Although the impact of such announcements is difficult to assess (because they usually do not happen in isolation of other policy changes), forward guidance is well grounded in expectations theory. And even though empirical evidence of rational expectations is rather hard to find, Blinder (2013: 245) finds that forward guidance worked “pretty well” in the US.

Both QE and forward guidance have now entered almost every major central bank's toolkit. In fact, it is even being discussed whether both ‘emergency’ policies which were inspired by the problems associated with the ZLB may be here to stay and become permanent instruments of central banks. This is remarkable, as both policies represent approaches that would have been inconceivable not too long ago. One case in point is the Fed's adoption of an explicit double threshold for rate hikes, which arguably marks a radical departure for US monetary policy. When the Fed made higher interest rates conditional on reaching a certain threshold value for unemployment, El-Erian (2012; 2013) characterized this move as a ‘reverse Volcker moment’ – marking a departure from Volcker's ‘inflation-is-all-that-counts’ approach to one that subordinates low inflation to other economic objectives.

Still far more radical ideas than QE and forward guidance have entered the debate – even though they are yet to be implemented. One such idea concerns the adoption of higher inflation targets of, say, 4 percent, as respected economists have recommended central bankers to do in order to avoid getting stuck at the ZLB again (see Ball 2013; Krugman 2014). Another idea for reforming monetary policy frameworks is to switch from targeting inflation to targeting nominal GDP instead. The underlying idea, its proponents hold, is combining two underlying goals of all central banks – namely low inflation and normal growth – into one single target (Woodford 2013). Phasing in nominal-GDP targeting in the current crisis, Frankel (2013: 93) argued, “delivers the

advantage of some stimulus now, when it is needed, while respecting central bankers' reluctance to abandon their cherished inflation target" altogether. I included both proposals – the adoption of higher inflation targets and nominal-GDP targets – in my survey among central bank economists discussed in the following chapter (see 5.2) to record how central bankers themselves perceive such ideas for reform

Possibly the most curious proposal brought to the table is the idea of '*helicopter money*' (see Turner 2013; Reichlin et al. 2013; for a sharp rejection of the idea, see Issing 2015), which implies the permanent monetization of government debt. The term alludes to a helicopter drop of freshly printed central bank money, as Milton Friedman (1969) metaphorically proposed. While nobody proposes using actual helicopters to distribute cash, a practical real-life version of the policy suggests that the government could give firms and households a tax rebate while the central bank creates the money needed to finance it. Given the resistance among policymakers, helicopter money – or 'cash for free' – is unlikely to be added to central bankers' toolkits anytime soon. However, the fact that the idea is being seriously debated among central banking circles today shows just how far the profession has come in terms of unconventional thinking.

#### 4.4 Conceptualizing monetary paradigms: orthodoxy and revisionism in flux

The above discussion shows that both monetary theory and central banking practice have entered spheres that were unconceivable only a few years ago. All this suggests that past orthodoxy has been severely damaged by recent events and a fundamental rethink of central banking is unfolding. Indeed, one core argument of this thesis is that this rethink occurs at different speeds in different places – and that this explains central banks' divergent policies during the crisis years. In other words: some central banks were quick to tear up their old rulebooks while others (read: the ECB) had a much harder time bidding previous orthodoxies farewell. Yet, how do we turn the above discussion of change and continuity in monetary thought into empirically testable implications?

Discussions of monetary theory in both academia and practice are usually couched in terms of broad macroeconomic paradigms such as '*Monetarism*', '*Keynesianism*', '*Neoclassical economics*', or – for the curious case of Germany – '*Ordoliberalism*'. As is the case with any broad paradigm or worldview, these provide orientation by turning our attention to the bigger picture rather than getting lost in the details. Because of that, however, they do not necessarily apply perfectly to every single relevant aspect of monetary theory and central banking practice elaborated on above. Furthermore, they carry normative baggage, as these terms are often heavily politicized.

This is why I choose two different labels for my summarizing Table 4.3 below, differentiating between *orthodox* and *revisionist* monetary theory. Admittedly, this does not

provide the reader with a more accurate description of empirical reality. Worse even, these labels are time-sensitive as what is considered as orthodox may change from time to time. In fact, today's revisionism might well end up as tomorrow's orthodoxy – and could with some justification be described as yesterday's orthodoxy as well, invoking the image of a pendulum swinging back and forth. For all these shortcomings, using these rather inculpable terms hopefully avoids an all-too-normatively charged reading of the table, which should simply provide a synopsis of the range of opinions on the monetary policy issues discussed in this chapter. Certainly reductionist, and therefore dangerously oversimplified, it is a broad didactic device rather than a sharp analytical tool.

	<b>Orthodox</b>	<b>Revisionist</b>
<b>Economic agents</b>	rational	prone to animal spirits
<b>Expectations</b>	include only random errors, no systematic mistakes	include systematic errors, i.e. money illusion
<b>Wage-/price-setting</b>	adaptable	downward sticky
<b>Cause of inflation</b>	nominal factors: money grows faster than output	real factors, e.g. wage-price-spirals
<b>Phillips curve</b>	vertical	downward sloping
<b>Monetary neutrality</b>	yes	no
<b>Stimulating output?</b>	impossible / only temporary <sup>76</sup>	possible, at the price of higher inflation
<b>Financial stability</b>	spotting bubbles impossible; no leaning against the wind	financial stability is price stability
<b>Policy at the zero lower bound</b>	money creation can always induce inflation	money growth is not inflationary (liquidity trap)
<b>Biggest threat</b>	inflation	deflation

*Table 4.3: Range of views on different aspects of monetary theory*

The 'orthodox' and 'revisionist' perspectives summarized in the two columns are best viewed as ideal-types or extreme positions. They serve as opposite ends of a continuum, implying that most economists would probably position themselves somewhere in between. After all, few believe people to be either perfectly rational or irrational all of the time. More realistically, whether or not they act rationally will depend on the specific character of a situation (e.g. the institutional setting) under examination. Yet, the

<sup>76</sup> unless the monetary shock is a complete surprise

table clarifies on which aspects monetary economists have disagreed in the past and can, in principle, disagree today.

Furthermore, table 4.3 suggests that views on particular aspects of monetary theory are not completely independent of views on other aspects. While I do not wish to suggest that a particular view on the formation of expectations *automatically* implies a corresponding belief about what contribution monetary policy can make to safeguard financial stability, certain logical consistencies do exist among the aspects summarized under each ideal type. For instance, if we believe agents to be perfectly rational, we are likely to think that they make no systematic mistakes regarding their expectations of the future, that they will swiftly adapt prices and wages in line with prevailing inflation rates and, therefore, that money is neutral.

Finally, macroeconomic paradigms do fit into the table to some extent. Regarding several aspects ‘Orthodoxy’ is substitutable with either ‘Neoclassical economics’ or ‘Monetarism’, while many ‘revisionist’ positions might just as well be labelled as ‘Keynesian’. This underlines that this table basically maps economic philosophies from a pre-crisis perspective: during the ‘Great Moderation’ the orthodox (or consensus) view of monetary economics was mostly ‘Neoclassical’, while ‘Keynesian’ views had largely lost their appeal after the stagflation of the 1970s. During the 1950s and 60s, however, ‘Keynesian’ beliefs had been the Orthodoxy of the day, underlining the pendulum metaphor alluded to above.

Yet how does German monetary conservativeness figure into this dichotomy? Which beliefs about the economy inform German central bankers’ positions and how do they relate to Orthodoxy and Revisionism, or to basic Keynesian and Monetarist premises? Given the prominence of German views in debates of ECB policymaking, this particularly important aspect for this study deserves further attention.

### ***What is ‘Ordoliberal’ monetary policy?***

Much of the debate on Germany’s peculiar approach to monetary policy refers to a specific paradigm which, according to popular narrative, is deeply rooted in the country’s history and continues to influence both German economists and policymakers (see Bofinger 2016; Issing 2000; Young 2014). Sometimes also dubbed the Freiburg school of economics, Ordoliberalism is the theory behind Germany’s model of the social market economy (Bonefeld 2012; Vanberg 2004). Interestingly, Ordoliberalism rests on both a strong state imposing order – *Ordo* – and free market thinking – *Liberalism*. The strong state of the Ordoliberals provides the legal and institutional framework that they believe efficient markets to require; but the Ordoliberal state is not to directly interfere with economic processes. It is primarily a regulatory state.

Walter Eucken (1891-1950) is usually referred to as the founding father of the Ordoliberal tradition – not least by German members of the ECB’s Governing Council (see Issing 2000, 2004; Stark 2008; Weber 2007; Weidmann 2014). His approach to



macroeconomics rests on three core principles: balanced public budgets (coupled with a neglect of the demand-side effects of fiscal policy), price stability (with an asymmetric preference for deflation), and price flexibility as the most important solution to unemployment problems (see Bofinger 2016; Wolf 2016). Eucken's writings were deeply influenced by his times. His early empirical analyses focus on the German experience of hyperinflation in 1922/23 and the causes of the deflation from 1929 to 1933 – spectacular macroeconomic failures which Eucken found to be caused by active demand management. Consequently, Ordoliberals in the tradition of Eucken favor strict rules to limit not only market behavior, but also discretionary government action. This suspicion of an activist state has been interpreted as understandable reaction to the Nazis' abuses of central state power (Allen 2005: 200). It is perhaps more surprising, as Bofinger (2016: 15) suggests, that Eucken thought he could develop general economic principles from the very specific historical experience of Germany – and that these continue to enjoy popularity among German economists until today.

This may be the case not so much for historical reasons, but, as Blyth (2015: 138-142) details, because it is a great instruction sheet for Germany's specific economic model. As a late industrializer, Germany's economic profile has been heavily focused on export-oriented manufacturing. After the Second World War, its successful export-led growth model was greatly helped by an economic policy geared towards cost competitiveness, which required "wage control through the restriction of consumption and a strong anti-inflationary stance" (ibid: 139). As nothing succeeds like success, Blyth argues, the continuing influence of Ordoliberalism in Germany is better understood as a consequence of its perfect fit with the country's peculiar economic structure than its equally peculiar history. This is why German economists still study Walter Eucken's principles while economists everywhere else are unlikely to have ever heard of him. But what exactly are those principles?

To Eucken and his followers, monetary policy was the first and most important constituting principle of the '*Ordnungspolitik*': "All efforts to make a competitive order a reality are pointless unless a certain level of monetary stability can be ensured; monetary policy thus has primacy for the competitive order" (Eucken 1952: 256, as translated in Issing 2004). However, it is one thing to point out the overarching importance of price stability, and quite another to specify how to attain it. Here, Ordoliberalism offers broad principles rather than clear guidance for policy. In line with its overall rule-based legalistic approach, Ordoliberals would like to grant monetary policymakers as little discretion as possible. According to Eucken, policymakers are constantly exposed to pressure by interest groups, public opinion and wrong theories and should therefore be constrained by clear rules (Eucken 1952: 257). In this view, monetary policy is done best if the human element is eliminated and replaced by an automatic mechanism. The more monetary policy is rule-based (e.g. restricted by fixed annual targets for monetary growth), the better it can be expected to insulate itself from political

pressures to prioritize growth and employment objectives (Dyson 2000: 29). Ordoliberals are therefore clearly on one extreme end of the spectrum in the debate of rules vs. discretion.

This line of thinking clearly became deeply embedded in the German Bundesbank. The former Bundesbank President Hans Tietmeyer expressed this clearly in a speech he gave at an ECB Colloquium held in honor of Otmar Issing in 2007:

*“We at the Bundesbank described our prevailing strategy of money stock management as ‘subjection to rules, with the option of discretionary action in exceptional circumstances’ or ‘rule-based behaviour’. We wanted to keep the option of flexible moves open. And this behaviour was sometimes named as ‘pragmatic monetarism’. Even so, for us in the Bundesbank it was always important to abide by the concept of fundamentally ‘rule-based behaviour’.” (Tietmeyer 2007: 65)<sup>77</sup>*

As Tietmeyer’s statement underlines, the Ordoliberal focus on constraining rules has much in common with seminal contributions to Monetarist thought by Friedman (1960) and Kydland & Prescott (1977). It does not come as a surprise, then, that Ordoliberals are considered as Monetarists. After Eucken’s initially preferred solution – fixing policy on Commodity-Reserve Currency – had proven to be unworkable, the idea of controlling inflation by restricting the annual growth of monetary aggregates seemed close enough to the Ordoliberal ideal of an automatic mechanism. As a consequence the German Bundesbank chose monetary targeting à la Friedman (1960, 1968) as its framework and started announcing yearly money supply targets after the end of Bretton Woods in 1973 – and formally continued to do so even in the 1990s when most central banks had long switched to targeting inflation directly (Feld 2016: 48).

Yet, most of the fundamental principles of modern-day central banking seem to conform to Ordoliberal views: independent central banks are shielded from the direct pressures of politicians and public opinion, their hands tied by more or less restrictive mandates, preannounced numerical inflation targets and prescriptive policy rules à la Taylor (1993). All this, alongside other rather broad macroeconomic principles endorsed by Ordoliberals, appears to be compatible with a lot of standard economic analysis. Consequently, much confusion exists as to where Ordoliberals should be placed within the range of established macroeconomic theories. To give an extreme example, Peter Bofinger (2016: 15) finds that “Eucken’s economic philosophy can be regarded as the complete antithesis to Keynes” and his emphasis on demand management by the state, while Simon Wren-Lewis does not see Ordoliberalism and Keynesianism as necessarily incompatible. Since Ordoliberalism admits the existence of mar-

---

<sup>77</sup> Speaking at the same occasion (and right after Tietmeyer), former Fed chair Paul A. Volcker (2007: 72) made the following remark on the role of rules and discretion in central banking: “Dare I say it out loud? Without art, without judgment and discretion, there would be no need for central bankers at all.”

ket imperfections and sees a role for the state in correcting them, he argues, it is not entirely Anti-Keynesian (Wren-Lewis 2014b).

Ordoliberal policymakers and academics therefore do not fit squarely into a particular branch of monetary theory. As Ordoliberalism is more accurately characterized as “much more a philosophy of regulatory policy than a part of economics” (Sandbu 2016a), the FT’s Wolfgang Münchau (2014) argued that “*Ordoliberals lack their own coherent monetary policy framework*. They used to be Monetarists. Their position today is mostly inconsistent.” For the purposes of my empirical analysis offered in the following chapter, this begs the question: How do we know an ordoliberal central banker when we see one?

I assume Ordoliberals to share basic premises of Monetarist thought such as the neutrality of money. On the contrary, I expect them to express skepticism towards Keynesian concepts such as animal spirits and sticky prices. I further expect them to be less concerned about or even ignorant of the existence of liquidity traps where central banks become powerless, and therefore more concerned about money growth. Finally, I expect them to be more concerned about the dangers of inflation than of deflationary risks. More generally, I assume them to put more emphasis on previous rules and traditions and to be less open to discretionary experimentation by policymakers or changes in policy frameworks. In short, I expect them to be more orthodox than other central bankers. Based on my survey data, the following chapter analyzes to what extent these and other theoretical assumptions hold empirically.



## 5. WHAT DO CENTRAL BANKERS *THINK* THEY CAN DO? ECONOMIC BELIEFS AND HOW THEY MATTER FOR POLICY

*“I am getting old enough to have lived through several swings of opinion  
about the role and effectiveness of monetary policy.”*

Paul A. Volcker, 1994

Central banking has arrived at a crossroads. The previous chapter has demonstrated how the crisis “threw a large rock into the calm waters of central banking” (Davies & Green 2010: 1), shaking up many old certainties of monetary thought. Consequently, fundamental debates about the goals and tools of central banks, which appeared settled during the deceptively calm days of the ‘Great Moderation’, have resurfaced. Just as monetary policy assumed a more important role than ever, central bankers appeared less confident about their knowledge and capacities than ever. Yet they had little time to spend on soul-searching. Amidst all the uncertainty, central bankers had to do *something* to tame a crisis they didn’t understand. In order to make sense of this challenging environment, I argue, central bankers had to turn to their beliefs about how the economy works. And because these beliefs differed, so did central banks’ policies.

By offering an empirical analysis of these beliefs, I now turn to the Achilles’ heel of ideational research. To make the case for the importance of ideas, we have to find a way to measure them. This is not a trivial task, as ideas are notoriously hard to track down. Consequently, ideational studies on monetary policy and EMU usually offer broad historical narratives rather than direct measures of the variables of interest (e.g. Kaltenthaler 2006; Marcussen 2000; McNamara 1998; Verdun 2000a). Regarding the case of the ECB more specifically, there have been ample discussions of economic philosophies in both academia (see Brunnermeier et al. 2016) and the media. For instance, much has been made of the fact that both Ben Bernanke and Mario Draghi both pursued their PhD studies at the Massachusetts Institute of Technology (MIT) under the supervision of Stanley Fischer (Hilsenrath & Blackstone 2012). Even more frequently discussed is ‘Germany’s parallel universe’ of macroeconomics (Münchau 2014), often assigning German-style economic thinking a decisive role for fiscal austerity and monetary hawkishness in Europe. Yet while such speculations about differences in economic thinking inside the ECB tend to receive a lot of attention, they often remain just that: speculations.

This study aims to go beyond that by measuring central bankers’ economic beliefs directly. I thus surveyed 422 central bank economists on their attitudes towards key aspects of monetary theory and their policy preferences. Based on this new dataset, I discuss the following questions below:

- Do central bankers’ economic beliefs actually differ? And, if so, which?
- How are differences in beliefs linked to individuals’ policy preferences?
- And how are these beliefs and preferences distributed among central banks?

As I show below, central bankers indeed hold different views about how the economy works (see 5.2), and these differences in beliefs are intimately linked to their inflation preferences (see 5.4). Most importantly, I observe important distinctions between different central banks regarding both economic beliefs and inflation preferences (see 5.5). In particular, central bank economists working in Northern and core European monetary institutions differ from their colleagues in Southern Europe as well as Anglo-American central bankers. Northern European central bankers are both more skeptical about the contribution monetary policy can make to stabilize the economy and more concerned about inflationary risks associated with unconventional monetary policy. They are less optimistic about what monetary policy can do and, at the same time, more concerned about trying to do too much. And these beliefs matter for policy preferences, too: Northern European central bankers are much more hawkish regarding inflation than central bankers elsewhere.

By pointing out these differences, the survey data helps us to understand why the ECB responded to the Great Recession much more slowly and cautiously than its peers. It also sheds light on the dividing lines among Eurosystem central bankers. The data suggests that the ECB got stuck in the middle in a battle of economic ideas between an orthodox core and a more revisionist periphery. Trying to find some middle ground between the divergent beliefs and preferences of its member institutions, the ECB's response to the Great Recession remained closer to previous orthodoxy than the Federal Reserve or the Bank of England, which quickly tore up old rulebooks.

Before turning to the analysis of the survey data (5.2-5.4) and its implications for European monetary policy (5.5), however, I discuss the details of my survey-based empirical strategy. The following section 5.1 introduces the approach by laying out the rationale for surveying central bank economists (5.1.1) and offering details on the data collection process, including a discussion of response rates and potential problems associated with non-response bias (5.1.2).

## **5.1 Central bankers' economic beliefs: why and how to measure them**

In the age of independent central banks, monetary policy is made by a committee of technocrats whose authority mainly derives from their highly specific knowledge. In the case of the ECB, this process of collegial and technocratic decision-making happens very much behind closed doors. No meeting transcripts are published which allows for identifying individual positions in order to shield committee members from outside influence. In other words: even if there may be no real world example of economic experts making policy entirely free of political interference, the ECB's Governing Council comes fairly close. It is designed as an expert committee of equals who pool information, models and experience, argue about policy, and make decisions con-

sensually without granting politicians a seat (or even a phone call).<sup>78</sup> Despite all the difficulties associated with researching decisions made behind closed doors, we can assume the ECB Governing Council to be a setting where economic ideas play a particularly important role

While there is no shortage of conceptions of ‘ideas’ (such as worldviews, norms, values, shared mental models, or paradigms), I conceptualize ideas as ‘shared causal beliefs’. Causal beliefs establish relationships between means and ends and thus provide an account of how the economy works. Monetary theories – understood as probabilistic arguments connecting economic causes and effects – offer policymakers guidance when they face the uncertainties emerging from a crisis. They provide them with an interpretive framework, allowing for reducing uncertainty and making collective action possible (Blyth 2002: 35-39). Thus, causal beliefs help central bankers to make sense of a situation and argue for particular policy responses.

Arguably the biggest hurdle for studying policymakers’ beliefs is measuring them. Gerring (1997: 966-8) raises the important question of where we try to locate beliefs – in peoples’ minds, behavior, or language? Here our methodological arguably follow our epistemological choices: if we look for ideas in actors’ minds, we probably interview or survey them; if we focus on behavior, we may opt for participant observation or experimental methods; and if we concentrate on language, we are likely to employ discourse analysis. Unfortunately, the literature on ideas rarely exploits this potential methodological variety. Béland and Cox (2010: 17) point this out in their survey article of ideational research: “Because the field is dominated by narrative, interpretive methods, the greatest challenge for research on ideas is to employ more statistical and quantitative methods”. This relative absence of quantitative studies may be of concern for two reasons: first, one may perceive every single mode of inquiry as being inherently flawed in a specific way – and methodological variety therefore as an end in itself. Second, using different methods to study the same phenomenon may yield different results. This is why I use two very different sources of data to examine the same concept: a survey of central bank economists (chapter 5) in combination with public speeches and interviews of central bankers (chapter 6).

While almost all ideational scholarship relies on data derived from public discourse of some sort, I emphasize a different empirical strategy. Rather than analyzing central bankers’ public interventions for traces of economic ideas and coding them accordingly, I asked them directly with the help of a standardized questionnaire on economic ideas. Such a survey-based measure of ideas may differ substantially from measures based on central bankers’ speeches in various ways. First, it does not include the strategic element typically influencing speech acts. In central banking this does not only

---

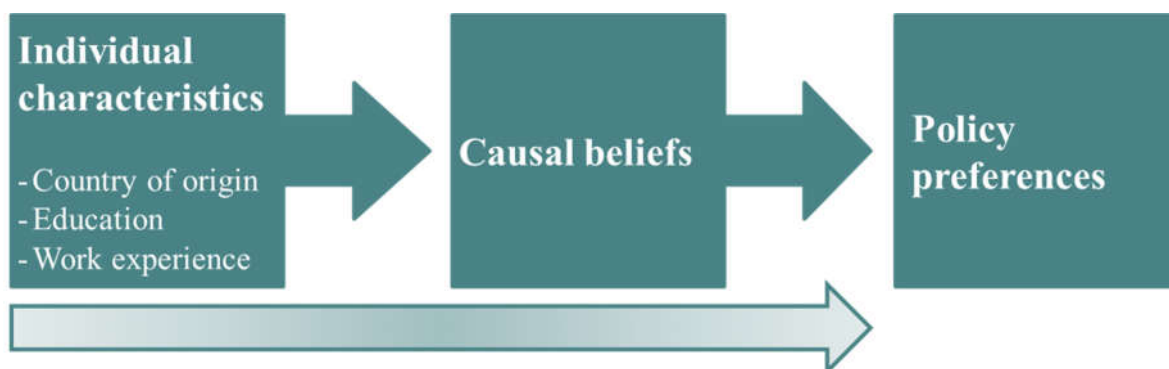
<sup>78</sup> Mari Draghi, for example, denied having cleared his famous ‘whatever it takes’-remarks with any European government (Financial Times 2012), thus rebutting rumors that he consulted German chancellor Angela Merkel over the phone before making the remarks.

include that policymakers may speak differently to different audiences as Bennani and Neuenkirch (2017) have shown. Central bankers also need to keep more than just one eye on how financial markets react to what they say. Not only since the adoption of explicit and implicit forward guidance schemes have policymakers' speeches provoked strong market reactions; Draghi's 'whatever it takes' being only the most striking example. All this make it very likely that central bankers' speeches constitute highly edited public interventions which tend to downplay uncertainties and potentially existing divisions in economic views.

A second major difference is that my measure includes not only policymakers but professional central bank economists as well. This means I do not model individuals' economic beliefs but a proxy for the economic beliefs of different institutions. Thanks to other variables recorded in my survey, respondents may also be grouped by gender, age, nationality, education, career patterns, or specific beliefs. As such, the measure does not allow for making heroic assumptions about individual decision-makers or single decisions. What it does provide, however, is a novel proxy measure of an institution's economic thinking.

### 5.1.1 A survey-based measure of economic beliefs

I attempted to take on the challenge to 'quantify ideas' by surveying central bankers. More specifically, I carried out an online-survey during the second half of 2016 (active from June 28 to December 31) among central bank economists and policymakers, which included eight survey items related to contentious aspects of monetary theory. Focusing on all departments that usually contribute to monetary policy formation (often called Economics, Research, Financial Stability, Counsel / Advisers to the Board) as well as the decision-making bodies themselves, I sent the survey link via email to all economists I could identify as working in those units. This amounted to a list of 2,657 individuals in total (for details on institutions and their response rates, see Table 5.3). Next to a link to the online survey (which used the *Qualtrics* platform), my email included a short introduction to my research as well as, crucially, a Letter of Support by Prof. Richard Portes which encouraged potential respondents to participate (all documents included in Appendix A2).



**Fig 5.1:** Survey design



The survey questionnaire, which I pre-tested with the help of both central bank staff and academics,<sup>79</sup> was divided into three parts: questions on individual characteristics, their causal beliefs, and their policy preferences. The underlying idea was to produce a database which could provide hints about how causal beliefs emerge (a) and how they influence policy preferences (b). Indicators of causal beliefs could then potentially serve as both dependent and independent variable. On the one hand, they can be linked to individuals' personal backgrounds (such as age, nationality, gender, education, career patterns) in order to assess which factors are most likely to make central bankers adopt certain beliefs. Thus the data allows for testing empirically some existing assumptions regarding belief formation. On the other hand, both individual characteristics and belief indicators can be related to individuals' policy preferences directly (see Fig 5.1).

My central part of my survey – the belief items – is informed by my discussion of controversies in monetary thought offered in chapter 4. More specifically, it translates key aspects of the summarizing table 4.3 into clear cause-and-effect statements and asks respondents for their degree of agreement with each statement (see Table 5.1 below). Survey respondents saw these eight items in randomized order and were asked to indicate their degree of agreement with each statement on a 7-point Likert scale ranging from –3 to +3 where ‘–3’ meant ‘disagree completely’ and ‘+3’ meant ‘agree completely’. This, I argue, constitutes a fairly straightforward way to quantify the economic ideas actors hold in a way that allows for comparison across institutions. Allowing respondents to place themselves along a continuum follows from the consideration that ideational differences between central bankers are likely to be gradual rather than categorical.

The agreement scores produced by this survey serve as proxies for the relevance of several aspects of monetary thought within central banks. I record attitudes towards a particular theory of inflation (1), the role of price stickiness (2), rational expectations (3) and money illusion (4), the effects of monetary policy on growth and employment (5) or the potency and risks of unconventional monetary policy (6). Two different statements regarding the relationship of price stability and financial stability were included as well: whether ‘leaning against the wind’ is possible (7) and how relevant it is to do so for price stability purposes (8). Table 5.1 provides an overview of how these aspects were operationalized and what kind of responses could be expected from orthodox and revisionist ideal types (following Table 4.3).

---

<sup>79</sup> After drafting the questionnaire, I asked seven of my interviewees from both the European Central Bank and the Bundesbank whether they would be willing to participate in a (paper-based) pre-test of my survey at the end of our interview. Being present while they filled in the questionnaire, I was able to record their feedback as to how to improve the survey instantly. Before finally sending out my survey link to the various central banks, I also pre-tested the online questionnaire with the help of eight colleagues at the European University Institute and, specifically, our *Tommaso Padoa-Schioppa Working Group* on ‘The Design and Governance of Monetary and Fiscal Policies and Financial Regulation in the European Union’.

#	Statement	Orthodox	Revisionist
1	Inflation is primarily a monetary phenomenon.	Agree	Disagree
2	Downward rigidities of prices and wages are relevant for the purposes of monetary policy formation.	Disagree	Agree
3	Agents do not err systematically in their expectations of future developments.	Agree	Disagree
4	Human beings make mistakes because they perceive monetary values in nominal and not in real terms.	Disagree	Agree
5	Monetary policy effects on output or employment growth are only transitory.	Agree	Disagree
6	When interest rates are stuck at their lower bound, M1 growth is not inflationary.	Disagree	Agree
7	Monetary policy cannot reliably target asset prices.	Agree	Disagree
8	There can be no price stability without financial stability.	Disagree	Agree

**Table 5.1:** Causal belief items included in the survey

It is worth noting that all of these statements are positive rather than normative statements; instead of asking how the economy *should work*, they describe particular theories about how it *does work*. Furthermore, these axioms are phrased in rather broad and general terms (with the exception of statement 6). I aimed for such a high level of generality because I assume the way economists respond to these statements to be relatively stable over time. This is of particular importance for a one-off survey measure, which is necessarily static. Unless a major event happens, which is greatly at odds with a particular belief and forces those holding it to update their thinking, these beliefs are unlikely to change. I thus refer to the variables measured in this part of the survey as relatively time-insensitive *core economic beliefs*.

I measured policy preferences in the same way as the belief items, asking respondents for their degree of agreement with three ideas for reforming monetary policy frameworks. These included raising inflation targets (1), adopting nominal-GDP targets (2), or a stronger emphasis on financial stability (3). All of these reform ideas were discussed in some form during the Great Recession, even though no central bank in my sample has changed its monetary policy strategy to formally implement them yet. I therefore expect responses to be free of confirmation bias; since central banks did not change their official line, survey respondents should not have felt any pressure to agree with their institution's decision.

#	Statement	Orthodox	Revisionist
1	Given recent experiences with the lower bound, central banks should have inflation targets higher than 2%.	Disagree	Agree
2	Central bank should have nominal-GDP targets.	Disagree	Agree
3	Financial stability concerns should be taken into account for monetary policy decisions.	Agree	Disagree

**Table 5.2:** *Policy preferences items included in the survey*

It is not straightforward to assign orthodox and revisionist central bankers expected values for these preference items. One may expect orthodox central bankers to reject any change in monetary policy frameworks because of the reputation costs associated with making such changes. Central bankers generally defend their credibility tooth and nail because credibility has become seen as ‘the elusive elixir of modern macroeconomics’, as Mervyn King once remarked. This is because monetary policies, which rely on market reactions to produce the intended results, need to be credible in order to be effective.<sup>80</sup> Changing a central bank’s policy strategy then may cause their credibility to take a hit for several reasons: first markets may interpret a change as admitting past mistakes. More important, however, is a second consideration: central banks seek to anchor long-term inflation expectations, which requires them to signal the greatest possible amount of stability and predictability. To give just one example, Peter Praet (2016) reasoned that changing the ECB’s target in hard times “would be opportunistic and would damage the ECB’s credibility. It is precisely in turbulent times that the objective needs to be kept.” For if you change your policy strategy or targets once, how are markets to believe that you are not going to change it again?

Therefore orthodox central bankers reject both higher inflation targets and nominal-GDP targets. Revisionist minds as defined above, however, are much more concerned about the risk of deflation and getting stuck at the ZLB again. At the same time, they are more optimistic about the contribution activist monetary policy can make to sustain economic growth. Thus central bankers of the revisionist type are likely to be more open to targeting higher inflation rates (to guard against the risk of deflation) as well as nominal-GDP (to focus on real economic developments). I thus regard the first two preference items as good proxies for central bankers’ inflation hawkishness. Still, even revisionist minded central bankers do not change monetary policy frameworks lightly, as they are aware of the reputational risks of doing so as well. One should therefore not expect two clearly divided camps of central bankers. Rather, they should differ on these questions in degree, which is why I measure openness to reforming policy frameworks on a 7-point scale as well.

<sup>80</sup> Dellepiane-Avellaneda (2016) points out how much this line of reasoning is rooted in the ‘rational expectations revolution’.

It is less clear what positions to expect from orthodox and revisionist central bankers when it comes to the issue of focusing more on financial stability concerns when making monetary policy-decisions. Again, one may reason that doing so would constitute a change, which orthodox policymakers are likely to oppose. Yet, proponents of more ‘leaning against the wind’ usually argue for more restrictive monetary policy during economic booms in order to prevent bubbles from building up. It is essentially a hawkish position, adopted to argue for higher interest rates. Tellingly, the case for more leaning is most prominently made by the Bank for International Settlements in Basel – a stronghold of monetary conservatism. Finally, central banks would not need to formally change their mandate to pay more attention to developments in financial markets when setting interest rates (as the ECB does, following its ‘Two Pillar Strategy’). Thus, I expect orthodox central bankers to be more open to ‘leaning against the wind’ than their revisionist colleagues.

### 5.1.2 Institutions covered and their response rates

As monetary policy in the Eurozone is my main concern here, I sent my questionnaire to members of all twenty member institutions of the Eurosystem. In order to make interesting comparisons, however, the survey also comprised the Federal Reserve System (Board of Governors and all twelve regional Federal Reserve banks) as well as nine monetary institutions around the globe. These include four more members of the European System of Central Banks (the Bank of England, as well as the central banks of Sweden, Poland, and the Czech Republic) and central banks of three other Anglo-Saxon countries (Australia, Canada, New Zealand). Finally, I included two particularly interesting institutions which do not fall into any of the categories mentioned above: the Swiss National Bank and the National Bank of the Kyrgyz Republic.<sup>81</sup>

A word on response rates and non-response bias: the response rates per institution range from 10.1 to 30 percent, with most central banks falling somewhere in between 15 and 25 percent (see table 5.3 below, as well as Appendix A3 for a detailed list of response rates per institution).<sup>82</sup> Yet one clear pattern can be observed: the further away a central bank from continental Europe, the lower the response rate – the obvious outlier being the US Federal Reserve System with only 8.1 percent. Three factors may help explain this pattern. First, a dissertation project at the European University Insti-

---

<sup>81</sup> The *Swiss National Bank* has a similarly strong emphasis on price stability as the German Bundesbank and is particularly affected by the ECB’s policies. The *National Bank of the Kyrgyz Republic* features prominently in indices of central bank independence, often surpassing the ECB as the (formally) most independent central bank in the world (e.g. see Dincer & Eichengreen 2014: 216-18).

I originally included two further institutions in my survey, which I unfortunately had to drop because they returned too few responses: the *Banco Central do Brasil* as South America’s biggest central bank and the *Bank of Japan*, which serves as an important reference point as the first monetary institution to confront the ZLB.

<sup>82</sup> It should be noted, however, that the actual response rate could be substantially higher, since potential respondents were contacted via email only. This means I had no means of tracking how many individuals actually received the email inviting them to participate (and how many emails got caught up in spam filters). Thus, the numbers presented assume (perhaps unrealistically) that every email I sent was delivered and seen.

tute Italy may garner more attention and sympathy in Rome and Frankfurt than, say, Kansas City and Sydney. This probably goes for Prof. Richard Portes as well, who kindly supported my data collection with his Letter of Support. This certainly opened doors everywhere, but perhaps more so in Europe than elsewhere.

A second factor relates to accessibility of central bank economists' personal profiles on their institutions' webpages. While all US Federal Reserve banks and the Bank of England present comprehensive profiles of their economists online (including contact details), this is the case for only few Eurosystem institutions. Here I had to gather personal information from the banks' working paper series, conference proceedings, and lists on online platforms such as LinkedIn, ResearchGate, and RePEc (Research Papers in Economics). As a consequence, I assume that economists at the Fed and the Bank of England receive more uninvited requests like mine and can therefore be expected to be somewhat less likely to respond.

	<i>Contacts</i>	<i>Responses</i>	<i>Response Rate</i>
<b>1) Eurosystem</b>	<b>1290</b>	<b>270</b>	<b>20.9%</b>
European Central Bank	256	46	18.0%
Core countries' NCBs*	424	76	17.9%
Peripheral / Southern countries' NCBs**	498	118	23.7%
Eastern countries' NCBs***	112	30	26.8%
<b>2) Federal Reserve System</b>	<b>743</b>	<b>60</b>	<b>8.1%</b>
<b>3) Anglo-Saxon Central Banks<sup>§</sup></b>	<b>360</b>	<b>44</b>	<b>12.2%</b>
<b>4) Other Central Banks<sup>+</sup></b>	<b>264</b>	<b>48</b>	<b>18.2%</b>
<b>Total</b>	<b>2657</b>	<b>422</b>	<b>15.9%</b>

**Table 5.3:** Survey response rates for different groups of central banks

\* Austria, Belgium, Germany, Finland, Netherlands, Luxemburg

\*\* Cyprus, France, Greece, Ireland, Italy, Malta, Spain, Portugal

\*\*\* Estonia, Latvia, Lithuania, Slovakia, Slovenia

§ Australia, Canada, New Zealand, United Kingdom

+ Czech Republic, Kyrgyzstan, Poland, Sweden, Switzerland

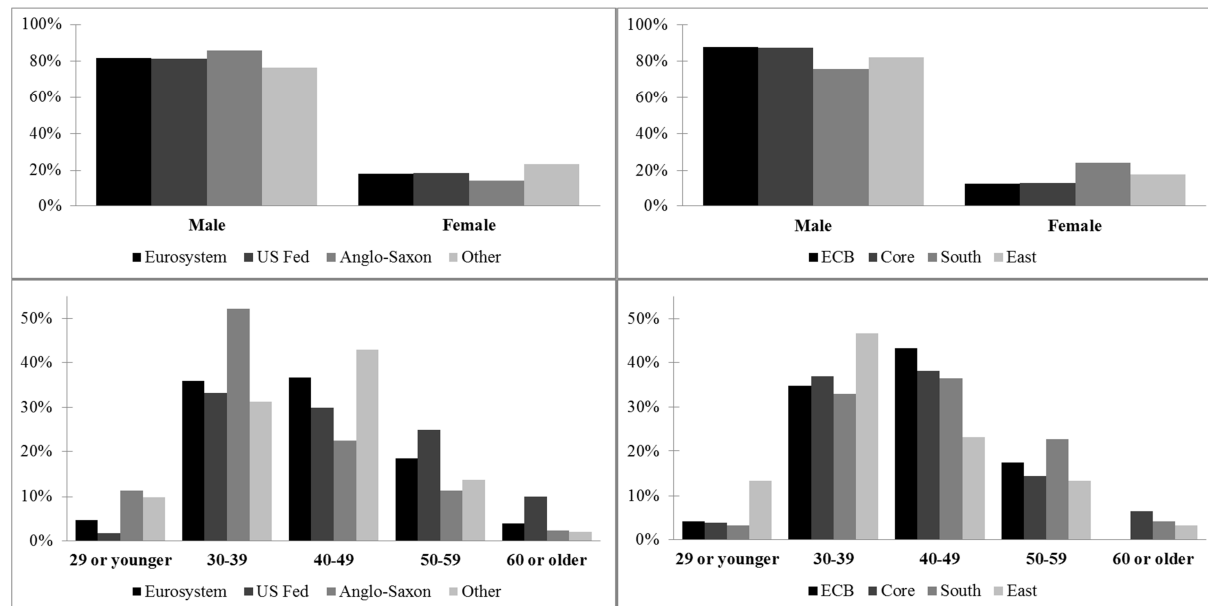
Arguably the most important factor, however, is that my data collection was undertaken in a period during which both the Federal Reserve and the Bank of England suffered political assaults. Both the UK's Brexit campaign and the presidential campaign of Donald Trump in the US launched fierce attacks on their respective central banks, blaming it for adverse economic developments, arguing for their heads to be replaced – even calling into question their independence (Sandbu 2016c). In this climate, one might expect any central bank to tread even more carefully than otherwise when it comes to their communication with the public, including external researchers.<sup>83</sup>

<sup>83</sup> I received several emails from Federal Reserve economists stating that they would have liked to participate but their requests for permission to do so were rejected by their heads of department because the organization was currently "being extremely careful in how it communicates" (quote from personal communication).

## *Non-response bias: comparing equally imperfect subsamples*

Central bankers are a tough population to survey. “They are a tight-lipped group that knows how to keep secrets,” as Blinder et al. (2016: 4) state in their survey-based study of central bankers. As such, they are unlikely to respond to survey requests in great numbers, even if you grant them full anonymity (as I did). This is particularly relevant if a survey includes detailed biographical information, which I had to do in order to empirically test existing theories about the role of education, origin, work experience etc. for belief formation. In this light, a relatively low response rate was to be expected.

An average response rate of 21 percent for the Eurosystem (and 16 percent overall) could be interpreted as a rather satisfying result. However, the differences to Anglo-Saxon central banks (12 percent) and the Federal Reserve System in particular (8 percent) need to be considered. In order to address concerns related to different response rates, I only include central banks in institution-specific analyses if more than 10 percent of all contacted individuals responded *and* if this comprises a minimum of 4 independent responses (the Federal Reserve System with 60 responses and a response rate of only 8.1 percent being the obvious exception). The same goes for analyses of particular subsets of populations, e.g. economists representing a particular nationality, age group, business unit etc. within a single institution.

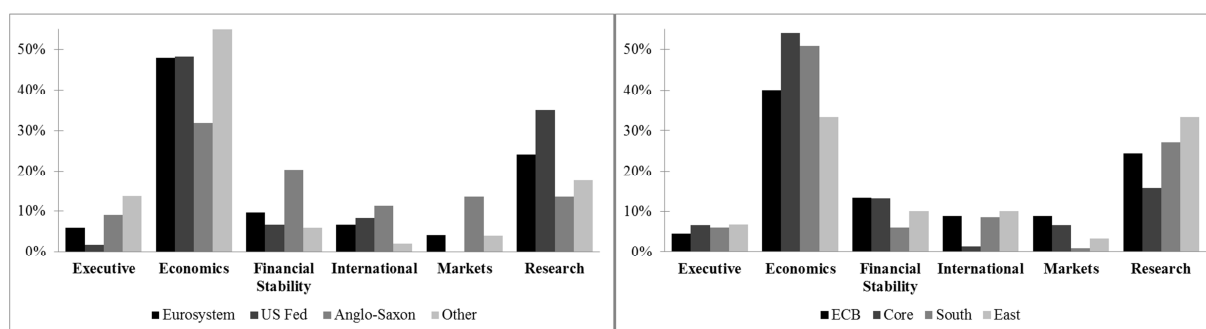


**Fig 5.2:** *Gender and age of survey respondents by different groups of central banks*

Yet, different response rates across institutions invoke the concern that non-response bias may be at play to varying degrees, thereby invalidating comparisons. However, my surveyed populations do not differ significantly across central banks despite these differences in response rates. As figures 5.2 and 5.3 show, the composition of re-

spondents within different groups of central banks is very similar in terms of age, gender, work experience, or representation of central banks' organizational units.

Central banking is still very much a man's world. For all four geographical groups of central banks in my survey, about four out of five respondents were male (Eurosystem: 82 percent; Federal Reserve: 81 percent). This ratio is only slightly different for Anglo-Saxon (86 percent) and other central banks (77 percent). If we compare different groups of institutions within the Eurosystem (see graphs on the right hand side of the figures 5.2 and 5.3), the only institutions with a higher ratio of female respondents are Southern European central banks, where three out of four respondents reported to be male (76 percent). When comparing age cohorts, a similar pattern emerges. Age structures are very similar, particularly among those groups comprising most respondents (Eurosystem and Federal Reserve). Only respondents from Anglo-Saxon and (within Europe) Eastern European central banks are modestly younger on average.



**Fig 5.3:** Respondents' affiliation to business areas by different groups of central banks

In terms of the representation of central banks' organizational structures, the similarities are equally striking. This is particularly true if we consider that not all central banks structure their operations identically (i.e. some do not have separate units for Economics and Research, while others do). Again, the biggest and, for the purposes of this study, most relevant groups of respondents (Eurosystem and Federal Reserve System) are the most similar ones. The only notable difference is that more Fed economists reported working in the Research division while fewer represented the executive branches. The latter may again be explained with the political attacks Fed officials endured during the data collection period. Arguably, they had an even bigger impact on communication practices of the Fed's senior officials than on its staff economists.<sup>84</sup> Beyond that, differences are negligible – and the same goes for respondents' career patterns. On average, there are no significant differences in terms of respondents work experience in different sectors (see table 5.4 below).

<sup>84</sup> The fact that no Federal Reserve economist reported working for the Markets division is easily explained by the fact that this division does not exist. The tasks other central banks assign to a specific Markets division can be found in sections within the Division of International Finance (Global Capital Markets section) or the Division of Research and Statistics (Capital Markets section). see Federal Reserve System Organizational Chart <https://www.federalreserve.gov/aboutthefed/organization-charts-accessible.htm> [accessed: 4 Jan 2017]

	<b>Total</b>	<b>Euro-system</b>	<b>Fed System</b>	<b>Anglo-Saxon<sup>§</sup></b>	<b>ESCB<sup>+</sup></b>	<b>Other<sup>*</sup></b>
<b>Central banks</b>	<b>11.56</b>	12.20	10.88	9.57	11.48	9.17
<b>Ministries / government agencies</b>	<b>1.23</b>	1.38	1.41	0.44	0.56	1.80
<b>Financial firms</b>	<b>0.86</b>	0.94	0.98	0.38	1.09	0.25
<b>Non-financial firms</b>	<b>0.47</b>	0.53	0.20	0.14	0.64	1.18
<b>Universities / research institutions</b>	<b>4.03</b>	3.98	4.54	1.64	6.23	4.69
<b>Central bank of current employment</b>	<b>10.57</b>	11.10	10.33	8.84	10.09	8.44

**Table 5.3:** Respondents' work experience in different sectors (in years)

§ Australia, Canada, New Zealand, United Kingdom

+ Czech Republic, Poland, Sweden

\* Kyrgyzstan, Switzerland

Against this backdrop I argue that my data allows for comparison across institutions, even if every single subsample for a specific central bank may not be representative of that institution. Assuming that central banks have similar workforces, comparing the average values across different institutions is possible provided that these subsamples have similar structures. In simple terms, while a subset of 20 percent cannot claim to be representative of all economists working in this particular central bank, they can be compared to the 20 percent who responded from other institutions – unless we have reason to believe that the composition of respondents from one institution differs significantly from others. For the purposes of comparison, then, it does not matter that my respondents do not constitute a perfect representation of beliefs and preferences within each individual institution. What matters is that all subsamples are *equally imperfect*, as the above shows. In other words, I do not claim to compare *representative* subsamples of central bankers; I claim to compare *comparable* subsamples.

## 5.2 Central bankers' beliefs: do they differ at all?

Central bankers are usually seen as a prime example of a global epistemic community. Typically they are highly educated middle-aged men, who hold Economics PhDs from Anglo-American elite universities. Throughout their education and work experiences they have many opportunities to be socialized in parallel ways, which gives observers the impression that central bankers are likely “to look at and analyze the world in very similar ways” (Marcussen 2006: 191). In other words: we often assume the transnational community of central bankers to hold similar views of the (economic) world. What is the point, then, in asking them to participate in a survey that focuses on *differences* in economic worldviews?



I depart from this wide-spread assumption of similarity, which I believe to be mostly a remnant of the ‘Great Moderation’. This does not necessarily mean that differences in thinking did not exist before the crisis challenged many a conventional wisdom and brought disagreements to the fore. Rather, it was possible to ignore existing differences in views as long as central banking was a relatively straightforward and conflict-free business. This, however, is no longer the case as the politicization of monetary policymaking and untypically harsh conflicts among leading central bankers in recent years have shown.

My survey thus documents how economic beliefs inside the central banking community differ. I begin by simply showing the distribution of all responses recorded for the eight cause-and-effect statements about the economy included in my survey. As the below shows, there is a surprisingly high degree of disagreement. Respondents’ views varied widely on all questions, with the exception of the almost universally accepted importance of price stickiness for monetary policy formation.

Survey items	Mean	SD	N	+	0	–
<i><b>Causes of inflation</b></i>						
Inflation is primarily a monetary phenomenon.	<b>0.83</b>	1.62	412	268	48	96
Downward rigidities of prices and wages are relevant for the purposes of monetary policy formation.	<b>2.09</b>	1.08	413	386	12	15
<i><b>Agents: rational expectations and money illusion</b></i>						
Agents do not err systematically in their expectations of future developments.	<b>-0.43</b>	1.75	409	143	35	231
Human beings make mistakes because they perceive monetary values in nominal and not in real terms.	<b>1.06</b>	1.43	412	312	36	64
<i><b>Financial Stability</b></i>						
Monetary policy cannot reliably target asset prices.	<b>0.97</b>	1.66	413	268	47	98
There can be no price stability without financial stability.	<b>0.98</b>	1.74	407	275	37	95
<i><b>Growth effects and side-effects of unconventional policy</b></i>						
Monetary policy effects on output or employment growth are only transitory.	<b>0.93</b>	1.72	417	278	30	109
When interest rates are stuck at their lower bound, M1 growth is not inflationary.	<b>0.52</b>	1.73	366	195	68	103

**Table 5.4:** Descriptive statistics for Causal Belief items<sup>85</sup>

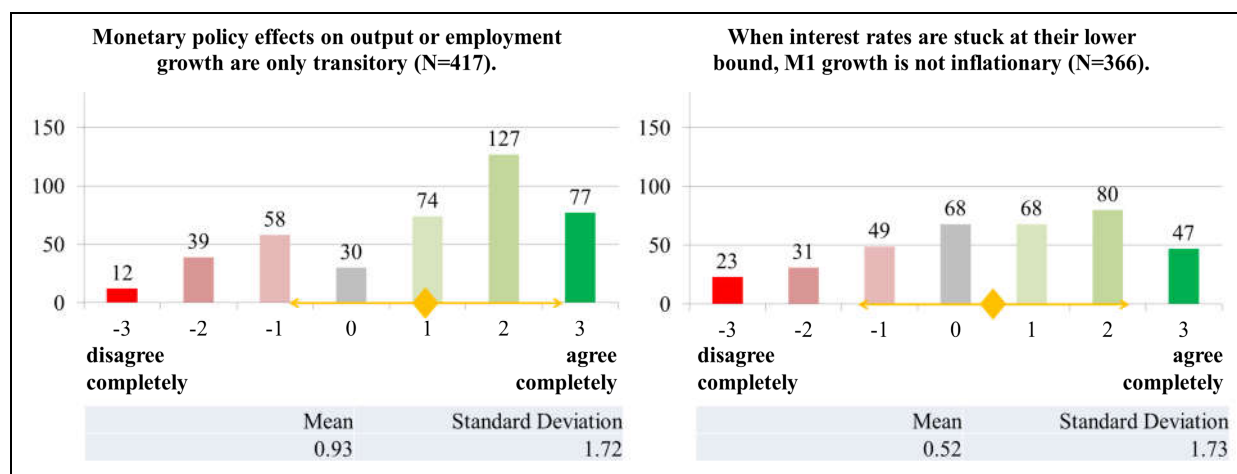
<sup>85</sup> Table 5.4 summarizes under ‘+’ all positive responses given in reaction to each statement, ranging from +1 to +3 (agree completely) and under ‘–’ all negative responses, ranging from –1 to –3 (disagree completely). For a more detailed table see Appendix A4.

I record little agreement on Friedman's famous Monetarist dictum that inflation is '*always and everywhere a monetary phenomenon*'. When asked for their agreement on the (somewhat more moderately phrased) statement that 'inflation is *primarily* a monetary phenomenon,' a noticeable majority (268 respondents) supported the view that money primarily determines inflation rates, while a sizable minority (98 respondents) was opposed. Interestingly, there is much more support for the revisionist (Keynesian) notion of price stickiness (with a mean of +2.09) than for the rather orthodox Monetarist theory of inflation (+0.83). This is important because many believe that central bankers can influence economic growth and employment because prices are sticky. Recently, this link between the empirical observation (that prices are indeed sticky) and the policy implication (that central bankers can influence economic activity) has been questioned (see Wang & Wright 2016). However, the way my survey item was phrased – '*Downward rigidities of prices and wages are relevant for the purposes of monetary policy formation*' – implies both. Downward rigidities are both real *and* relevant for monetary policy, according to the vast majority of central bank economists in my sample.

When it comes to theories of how economic agents make decisions, the data shows a similar pattern. Central bank economists are, by and large, supportive of money illusion (+1.06) – a revisionist concept often associated with Keynes – and much more skeptical about the orthodox concept of rational expectations expressed in the belief that economic agents do not err systematically (−0.43). This may not surprise the reader in the wake of a financial crisis which saw many of the world's most powerful financial firms facing bankruptcy because they had erred collectively. Yet, as some version of rational expectations is still built into central banks' models of the economy (Taylor 2016), this widespread skepticism may come as a surprise.

Much controversy surrounds the question of what monetary policy can and should do to secure financial stability (see chapter 4.2.3). While the period before the financial crisis of 2007/08 clearly showed that price stability alone is insufficient to safeguard the stability of the financial system, the years after the crash seemed to indicate that the reverse is true as well: the turbulent years of the Great Recession saw practically every major central bank miss its price stability target year after year. Consequently, the view that price stability is difficult to attain in the absence of financial stability prevails among the majority of survey respondents (+0.98). While this may speak to upgrading financial stability to a central bank's explicit goal *on equal footing* with price stability, however, it does not automatically imply the use of monetary policy instruments for financial stability purposes. That's why an equally large majority of central bank economists hold that '*monetary policy cannot reliably target asset prices*' (+0.97), which is a core underpinning of the pre-crisis Jackson Hole consensus.

This persistent skepticism about ‘leaning against the wind’ among central bankers is confirmed in another recent study. Johnson et al. (2016) analyzed central bankers’ public speeches after the crisis and found evidence for an emergent, tentative post-crisis consensus among central bankers. This view holds that central banks should focus more on financial stability issues than in the past, but do so through the use of new macroprudential instruments rather than interest rate policy. Whether or not monetary policy can and should be used in the pursuit of financial stability<sup>86</sup> thus remains a difficult topic on which opinions vary.



**Fig. 5.4:** Responses for items ‘Neutrality of Money’ and ‘Money Growth at ZLB’

I now turn to the two belief items that were arguably the politically most sensitive ones included in the survey. The first concerns the ‘Neutrality of Money’ and asked respondents whether monetary policy could affect output and employment in a lasting way (see chapter 4.2.2). The idea that monetary policy cannot have a lasting effect on real economic variables such as employment or real GDP is supported by the majority of respondents (+0.93). In this view, trade-offs between inflation and employment (as the traditional Phillips curve asserts) exist only in the short run. In the long run, an increase in the money supply will be offset by a proportional rise in prices and wages. This means, even if we believe that monetary policy can stabilize the economy in the short run, this effect does not last. In the long run, two out of three respondents believe money to be neutral. This may be consequential for economists’ policy preferences, as we can expect those think that monetary policy can have a lasting effect on the economy to be more supportive of activist policies. Supporters of the ‘Neutrality of Money’ idea, on the contrary, are likely to be less supportive because they do not believe that activist policies induce GDP or employment gains.

The inflationary effects of balance sheet policies became of the most salient and politicized issues of monetary policy in the Great Recession. Proponents of such unconventional policies argued that increasing the supply of base money by purchasing bonds

<sup>86</sup> This implies, in the words of the Bank of Canada’s Stephen Poloz (2015): “choosing a different path for interest rates than would be optimal for the inflation target in order to mitigate risks to financial stability.”

stabilizes the economy without creating inflationary risks, when interest rates are stuck at the zero lower bound (ZLB).<sup>87</sup> This was hotly debated before the Federal Reserve started experimenting with unconventional policies, and it remains a contested issue. It is still largely unknown how such policies work and which risks and side-effects they may induce. As a consequence, as many as 56 survey respondents chose not to reveal their agreement with the statement: *‘When interest rates are stuck at their lower bound, M1 growth is not inflationary’*. Of those who did respond, 195 agreed and 103 disagreed to some degree, underlining the contested nature of this issue (+0.52).

Again, what one believes to be true in this matter should influence one’s policy positions. Those who fear the inflationary risks of balance sheet policies are more likely to oppose them (and more activist monetary policy in general). Those who do not expect central bank purchases to have adverse effects on inflation, on the other hand, are more likely to endorse unconventional policies designed to stabilize the economy in a recession.<sup>88</sup> Before I turn to the issue of how these beliefs are associated with policy preferences empirically, however, I briefly discuss how the concrete beliefs described above are related to the much broader macroeconomic paradigms.

### 5.3 What role for paradigms?

Economic ideas are usually discussed in terms of macroeconomic paradigms or schools of thought such as ‘Keynesianism’ or ‘Neoclassical Economics’. Such labels greatly help us impose some order in the complicated and technical world of macroeconomic policy. While they may be helpful to analyze broad swings in economic policy, however, they are arguably not the ideal way to analyze specific monetary policies and central bankers’ thinking about them. Since these paradigms resemble big boxes with blurred edges, real-world monetary policies tend to not fit squarely into one box or another. Thus central bankers’ models of the economy usually combine insights associated with several different paradigms (i.e. some form of rational expectations combined with frictions resulting from downward rigidities). Furthermore, central bank economists do not particularly like these broad and politicized labels, insisting that they have little relevance for their day-to-day technical work. Macroeconomic paradigms are associated with economic ideology – and independent central bankers have every incentive to avoid appearing to be caught up in ideological battles.

This is why my survey emphasizes specific beliefs instead of broad paradigms. Since these paradigms feature prominently in public as well as academic debates, however, I did include a self-identification item in my survey. Here I asked respondents: *“Would you consider any of the following intellectual frameworks to be of particular relevance*

---

<sup>87</sup> Or, since recent experiences indicate that rates can indeed go below zero, some undefined, slightly negative value which constitutes the lower bound for short-term interest rates.

<sup>88</sup> However, an alternative interpretation is possible as well: if unconventional policies are adopted with the main purpose of creating higher rates of inflation (i.e. avoiding deflation), those who do not believe that they can achieve that goal might be expected to oppose such policies as useless.

*for your work?*”, offering them a choice among the following: Monetarism, Neoclassical economics, Keynesianism, Ordoliberalism, Public choice / institutional economics, and Supply side economics.<sup>89</sup> In order not to force respondents into one particular box, my survey allowed them to choose as many paradigms as they wished. However, they had to rank them in order, starting with the most important.

This data allows me to analyze how specific beliefs are related to paradigms. It also shows how adherents of different schools of thought are distributed among survey respondents. To show how paradigms matter for the specific beliefs respondents hold, I constructed six binary dummy variables for self-identification with each of the paradigms included in the survey. I coded respondents as adherents of a particular paradigm if they chose it as *either first or second* most important intellectual framework for their work. Table 5.5 below displays the mean values (and number of observations in brackets) regarding both economic beliefs and policy preferences for each of the six dummy variables created.

Some of these results indicate that paradigms are indeed good proxies for beliefs. Self-reported Monetarists, for example, are (unsurprisingly) most likely to agree that inflation is primarily a monetary phenomenon (with a mean of 1.34 compared to 0.83 among all respondents). The same pattern can be observed for endorsing Rational Expectations (0.05 vs. -0.43). Clearly the label Monetarism then reveals something about a central banker’s beliefs regarding inflation and expectation formation. In other areas, however, the data is not as straightforward. Famously-Keynesian notions such as Money Illusion or Sticky Prices are almost universally accepted. While it is true that agreement with these notions are higher than average among self-proclaimed Keynesians, these differences are rather negligible (+0.17 for Money Illusion and a mere +0.05 for Price Stickiness).

However, self-identification with Keynesian ideas does matter for other aspects of monetary policy. Keynesians are more likely than others to believe that M1 growth is not inflationary when interest rates are stuck at their lower bound. Thus we can expect them to be less concerned inflationary risks associated with unconventional monetary policy. Most importantly, Keynesians are most likely to support higher inflation targets: of all subgroups of respondents, self-reported Keynesians are the only group which does not, on average, oppose this controversial proposal to reform existing monetary policy frameworks. This may not surprise us, given that the case for higher inflation targets has first been made by prominent Keynesian economists such as Olivier Blanchard (et. al 2010) and Paul Krugman (2014) – and only recently been echoed from more conservative corners such as the Federal Reserve Bank of San Francisco (see Williams 2016) or the *Wall Street Journal* (see Ip 2016).

---

<sup>89</sup> I adopted the list of paradigms from a previous study on schools of thought among German economists (Frey et al. 2007). For a synopsis of their results see their table 2.2 (ibid.: 364).

<i>Variable</i>	<i>ALL Mean (Obs)</i>	<i>Monetarism Mean (Obs)</i>	<i>Ordoliberalism Mean (Obs)</i>	<i>Keynesianism Mean (Obs)</i>	<i>Neoclassical economics Mean (Obs)</i>	<i>Supply-side economics Mean (Obs)</i>	<i>Public choice / institutional e. Mean (Obs)</i>
<b>Beliefs</b>							
Inflation a monetary phenomenon	<b>0.83</b> (413)	1.34 (118)	0.11 (19)	0.66 (209)	1.01 (219)	0.93 (58)	0.59 (82)
Price Stickiness	<b>2.09</b> (414)	2.15 (119)	2.00 (18)	2.14 (210)	2.20 (220)	2.26 (57)	2.01 (80)
Rational expectations	<b>-0.43</b> (410)	0.05 (117)	-1.29 (17)	-0.56 (208)	-0.23 (217)	-0.05 (58)	-0.85 (82)
Money illusion	<b>1.06</b> (413)	1.11 (116)	1.00 (18)	1.23 (208)	0.96 (218)	1.08 (59)	1.11 (83)
Neutrality of money	<b>0.93</b> (418)	1.32 (118)	1.00 (18)	0.70 (212)	1.10 (220)	0.75 (60)	0.42 (84)
M1 growth at ZLB not inflationary	<b>0.52</b> (367)	0.26 (113)	0.08 (12)	0.86 (197)	0.54 (192)	0.12 (51)	0.49 (69)
No price stability without financial stability	<b>0.98</b> (408)	0.95 (116)	1.72 (18)	0.82 (208)	0.89 (214)	1.47 (58)	1.04 (82)
Cannot target asset prices	<b>0.97</b> (414)	0.99 (118)	0.44 (18)	1.05 (211)	1.06 (218)	1.18 (57)	0.98 (83)
<b>Preferences</b>							
Support for higher inflation target	<b>-0.28</b> (411)	-0.52 (117)	-1.21 (19)	0.02 (210)	-0.29 (218)	-0.34 (58)	-0.16 (80)
Support for NGPD target	<b>-0.73</b> (398)	-0.72 (116)	-1.33 (18)	-0.49 (207)	-0.91 (213)	-0.73 (56)	-0.65 (79)
Increased role for financial stability in monetary policy	<b>1.32</b> (419)	1.31 (119)	1.47 (19)	1.37 (211)	1.20 (220)	1.20 (59)	1.39 (84)
<b>Self-identification</b>							
Monetarism	<b>119</b>	119	4	40	59	8	7
Ordoliberalism	<b>19</b>	4	19	7	3	1	4
Keynesianism	<b>212</b>	40	7	212	109	12	39
Neoclassic economics	<b>222</b>	59	3	109	222	25	15
Supply-side economics	<b>60</b>	8	1	12	25	60	13
Public Choice/Institutional economics	<b>84</b>	7	4	39	15	13	84

**Table 5.5:** *Economic beliefs and preferences by macroeconomic paradigms*

The small group of central bank economists who identify with Ordoliberalism stands out in several respects. First, they are particularly critical of Monetarist concepts such as rational expectations or inflation being primarily a monetary phenomenon. This is surprising given that Ordoliberalism is usually considered as intellectually close to Monetarism, and the German Bundesbank as ‘Ordoliberal stronghold’ long pursued a policy approach considered as ‘pragmatic Monetarism’. Less surprising is that Ordoliberal respondents strongly agree with the idea that there can be no price stability unless financial stability prevails (1.72 compared to an average value of 0.98) – and consequently demand a more prominent role for financial stability considerations in

monetary policy frameworks.<sup>90</sup> Confirming the cliché of being extremely hawkish regarding inflation, Ordoliberalists also most strongly oppose the adoption of higher inflation targets (−1.21 compared to −0.28).

For all those interesting differences, however, there is need for caution. Table 5.5 also shows that among the 212 self-reported Keynesians, a surprisingly high number (109) also identifies with Neoclassical economics and a further 40 with Monetarism. Similarly, more than one in three Ordoliberalists (7 out of 19, to be precise) considers Keynesian ideas to be of particular relevance for their work. This may surprise a reader who thinks of these paradigms as constituting opposite ends of the spectrum economic theory provides. It suggests that central bank economists are flexible pragmatists rather than ideologues who, in their daily operations, are guided more by what they believe to work in practice than by one particular school of thought. This suggests that we should think about central bankers' economic ideas in terms of the concrete beliefs they hold rather than in terms of some broad (and politicized) macroeconomic paradigm. This is why the following analyses focus on the former, while leaving paradigms mostly aside.

#### 5.4 Do beliefs matter for policy preferences?

So far I have presented evidence that central bank economists' do disagree about key aspects of monetary theory. This appears to confirm the assumption of Knightian uncertainty established earlier: in the Great Recession central bankers have become more powerful and, at the same time, more uncertain about their knowledge and capacity to act than ever before. Fed chair Janet Yellen (2016) bluntly admitted that “the events of the past few years have revealed limits in economists' understanding of the economy” and sketched out four areas where a better understanding is needed. *Financial Times* journalist Martin Sandbu (2016b) comments on her much-debated speech as follows:

*“while Yellen surely does not mean to express despair, it only takes recognising the premise of her talk — that macroeconomists do not know very well whether demand affects supply; how an economy of non-identical people behaves; how finance matters, and what determines inflation — to ask what hope in hell central bankers have of making the right policy calls”.*

While this degree of disagreement and uncertainty may be a surprising result in and by itself (and a cause of concern in the eyes of observers like Martin Sandbu), this study focuses on how beliefs matter for policy. Therefore I now turn to the critical questions of a) how different beliefs about the economy are related to policy preferences and b) how both beliefs and preferences are distributed between central banks.

---

<sup>90</sup> This is very much in line with the prominent role of monetary aggregates in both the Bundesbank's and the ECB's monetary policy strategy.

Survey items	mean	SD	N	+	0	–
Given recent experiences with the lower bound, central banks should have inflation targets higher than 2%.	–0.28	1.82	410	144	72	194
Central bank should have nominal-GDP targets.	–0.73	1.59	397	94	82	221
Financial stability concerns should be taken into account for monetary policy decisions.	1.32	1.44	419	332	27	60

**Table 5.6:** Descriptive statistics for Preference items<sup>91</sup>

I start by analyzing which beliefs we may expect to play a role for central bankers' inflation preferences. As introduced above, my questionnaire included three items concerning policy preferences: raising inflation targets, adopting targets for nominal-GDP, and allowing financial stability concerns to influence monetary policy decisions. At first glance, table 5.6 confirms the preconception that central bankers are mostly conservative. In light of the expectations formulated above, the mean values point to preferences for orthodox positions: a majority of central bank economists in my sample opposes both higher inflation targets and introducing nominal-GDP targets, while most support a stronger role for financial stability considerations. However, the question on higher inflation targets appeared the most divisive preference question, with 144 respondents expressing some degree of openness to the idea and 194 opposing it. On the contrary, majorities are large regarding both the nominal-GDP-item and the Financial Stability-item.

Of those three items, openness to adopt higher inflation targets clearly offers the most straightforward way to operationalize inflation preferences. Therefore, the survey item I use to construct my main dependent variable is the level of agreement respondents reported regarding the following statement: *'Given recent experiences with the lower bound, central banks should have inflation targets higher than 2%'*. I consider this a good proxy for an individual's inflation hawkishness because I expect inflation hawks to strongly disagree with higher inflation targets and inflation doves to be more open to this idea. This assumption results from the following considerations:

The more a person agrees with higher inflation targets...

- ...the likelier she is to fear the risk of deflation more than the risk of inflation.
- ...the likelier she is to accept changes in monetary policy frameworks (including the adoption of novel monetary policy instruments).
- *...the likelier she is to favor activist monetary policy (especially when low inflation persists).*

<sup>91</sup> Table 5.4 summarizes under '+' all positive responses given in reaction to each statement, ranging from +1 to +3 (agree completely) and under '–' all negative responses, ranging from –1 to –3 (disagree completely). For a more detailed table see Appendix A4.

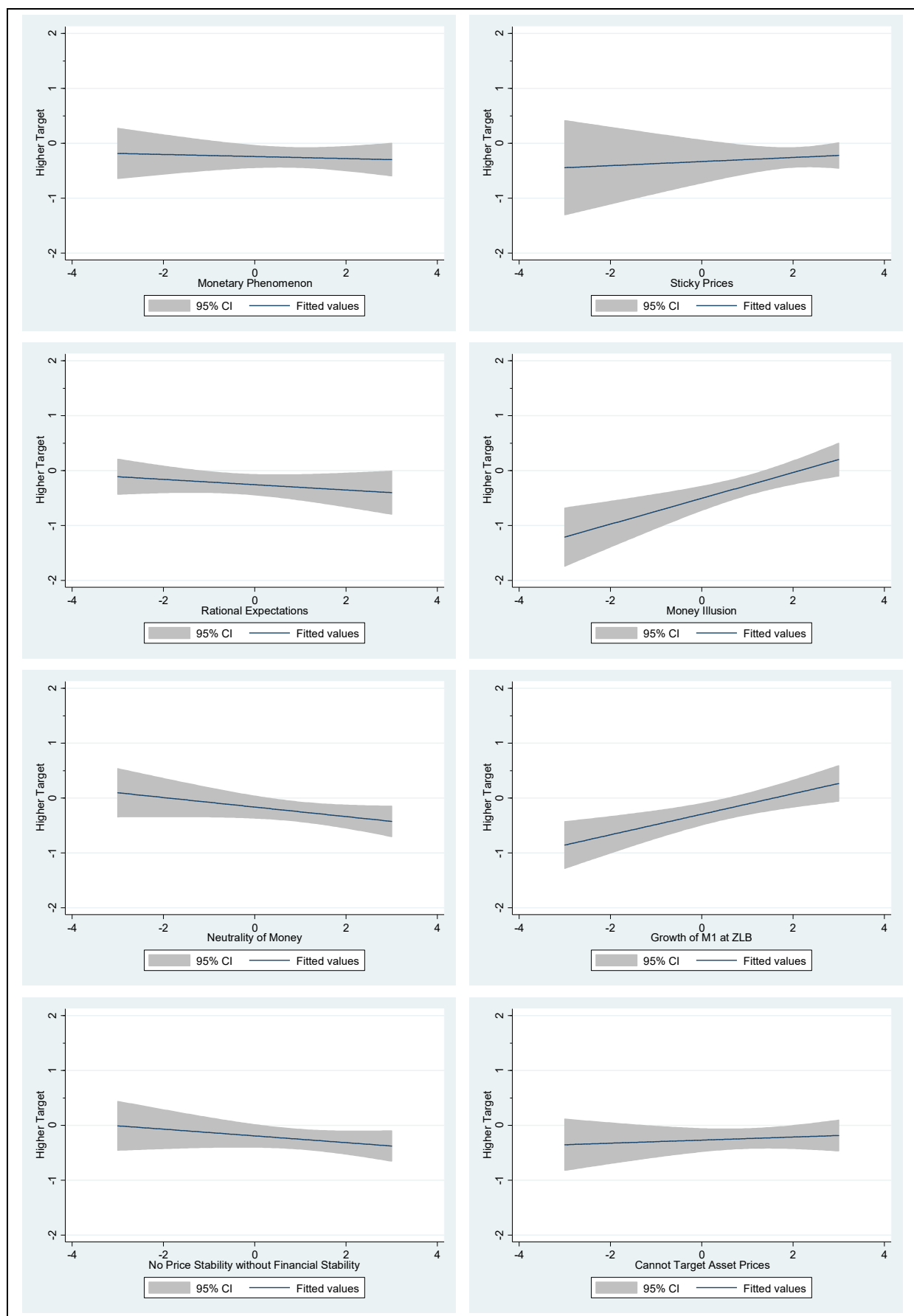


This leads to the question of which economic beliefs are most strongly associated with support for higher inflation (targets). Figure 5.5 offers graphic representations of univariate regressions for all eight belief items (independent variable on x-axis) on support for higher inflation targets (dependent variable on y-axis). The data suggests that some beliefs matter for inflation preferences, while others don't. In particular, financial stability beliefs are not at all or only weakly correlated with an individuals' inflation hawkishness (see Fig 5.5g and 5.5h). Given the content of these survey items, this is less surprising than the insignificance of survey items related to theories of inflation. In the case of Price Stickiness (5.5b) this is obviously a consequence of near-universal agreement; there is simply too little variance to explain anything. Dismissing the Monetarist theory of inflation as a primarily monetary phenomenon (5.5a) as insignificant for an economists' expected inflation hawkishness, however, is much more counterintuitive.

What remains are four propositions, signaling an empirical relationship between economists' inflation hawkishness and a) their beliefs about how human beings make economic decisions, b) how they form expectations about the future, c) whether money can impact growth and employment in a lasting way, and d) whether money growth is inflationary when interest rates are stuck at zero. In probabilistic terms, we may summarize the graphs given in Fig 5.5 as follows:

- The more a central bank economist believes in the neutrality of money, the more likely she/he is opposed to higher inflation (targets).
- The more a central bank economist believes money growth **not** to be inflationary when interest rates are at their lower bound, the more likely she/he is to support higher inflation (targets).
- The more a central bank economist believes in rational expectations, the more likely she/he is opposed to higher inflation (targets).
- The more a central bank economist believes in money illusion, the more likely she/he is to support higher inflation (targets).

In simple and generalized terms, the data suggests that those who believe in rational expectations and the neutrality of money are likely to be inflation hawks. Those who believe in money illusion and think that balance sheet policies at the ZLB are not inflationary, on the other hand, are more likely to be inflation doves.



**Fig. 5.5:** Linear regression lines for preferences for higher inflation targets (Y) on eight economic beliefs (X), 95% confidence intervals

## 5.5 Beliefs and preferences across institutions: is the ECB really a special case?

Does the above help understanding central banks' divergent policy choices during the Great Recession? To make the case that ideas mattered, I now turn to the question of how economic beliefs and policy preferences are distributed among the central bankers in my sample. For this purpose, I created dummy variables for individuals' affiliations with a particular central bank in order to run institution-specific regressions. I only include central banks in these analyses for which four or more responses were recorded, which is why four smaller institutions – the central banks of Cyprus (2 responses), Malta (2), Slovakia (3), and Slovenia (3) – had to be excluded from the analysis.<sup>92</sup>

It is important to note that the relationships between variables can be expected to change through this weighting procedure. The analyses of the relationships between beliefs and variables at the *individual level* include 422 observations (section 5.2.2) and were mostly driven by Eurosystem economists, which account for almost two-thirds of the overall sample (270 out of 422). The following analysis at the *institutional level* contains only 25 observations, as I consider only the one value for all institution (the mean) – regardless of whether this mean value summarizes 48 individual responses (as for the Banca d'Italia) or a mere 7 (as for the Central Bank of Ireland). While this procedure gives outsize importance to the smaller central banks in the sample (relative to their staff size and the number of responses from that institution), it is important to note that this procedure is the exact equivalent of the Eurosystem's formal decision rule. 'One head, one vote' gives the *Banque Centrale du Luxembourg* the same voting power in the ECB Governing Council as the *Banque de France* enjoys. Consequently both institutions have equal weight in the calculations below, no matter how many responses I recorded from each institution. The same goes, of course, for non-Eurosystem central banks.

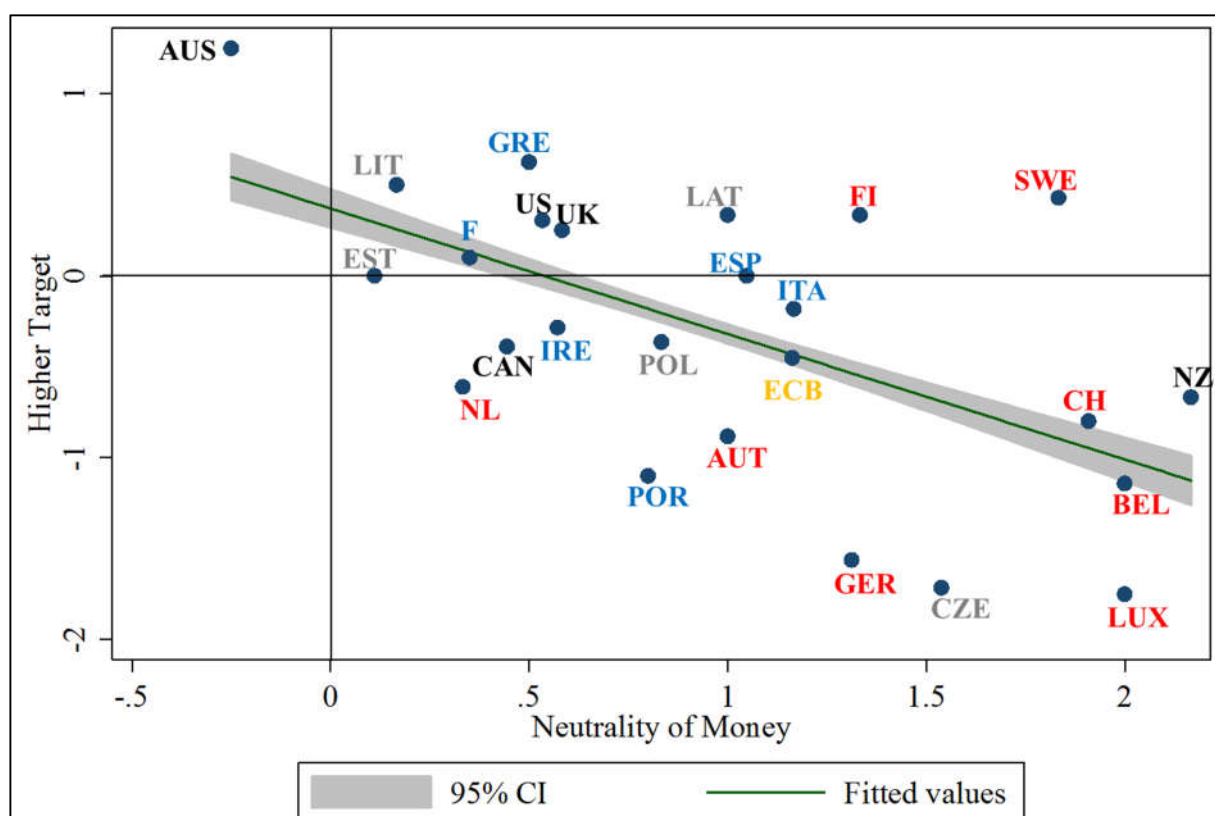
I focus my considerations below on the 'Neutrality of Money'. This is because a) the theoretical implications for inflation preferences are the most obvious, and b) the correlation with inflation preferences is strongest among my analyses at the institutional level. Figure 5.6 shows that the relationship between the belief in Monetary Neutrality and support for Higher Targets is stronger at the institutional than at the individual level (see Fig 5.5e), indicating some concentration of beliefs and preferences within central banks. One possible explanation for this concentration is that economists are socialized around certain sets of beliefs at the workplace through repeated interactions with their superiors and peers. Another theory suggest a self-selection channel: econ-

---

<sup>92</sup> The same goes the *National Bank of the Kyrgyz Republic* (NBKR), but for different reasons. As the NBKR has an official target of 7%, asking employees of this institution whether central bank should have inflation targets higher than 2% obviously invites confirmation bias (unsurprisingly the NBKR is an outlier regarding this question). Two other central banks do not have a target of exactly 2%: the Royal Bank of Australia (RBA) with a target of 2-3% and the National Bank of Poland (NBP) with 2.5%. Since these targets are arguably still close enough to 2%, however, I consider the responses of economists associated with these two institutions as still valid. Yet this difference should be kept in mind when interpreting figure 5.6.

omists are most likely to join those institutions they believe to be close to their own view of the economy.

Regarding the distribution of institutions, Figure 5.6 displays several distinct clusters. Anglo-Saxon (black) and Southern European central banks (blue) are predominantly found in the upper left corner, indicating dovishness as well as a relatively high degree of conviction that monetary policy *can* have a lasting impact on growth and employment. Diametrically opposed is the cluster of Northern / core European central banks (red) among which both the belief in the neutrality of money and inflation hawkishness are highest. A fourth group of Eastern European institutions does not form a distinct cluster: the central banks of Lithuania and Estonia are found in the dovish / revisionist corner, while their Latvian and Polish counterparts are close to the middle, and the Czech National Bank finds itself close to the orthodox and hawkish central banks of Northern Europe.



**Fig. 5.6:** Linear regression for preferences for higher inflation targets (Y) on the belief in the Neutrality of Money (X), means per institution

The ECB appears stuck in the middle between a revisionist South and an orthodox North. To phrase it positively, it seems to have found a middle road between the Eurosystem's divergent member institutions. This confirms neither old images of the 'European Bundesbank' nor more recent (German) fears of an institution captured by Southern / debtor states' interests. Rather, it invites images of the ECB as an organization which represents the diverse economic philosophies and interests of its member

institutions. As such, it cannot afford to disregard the views of either North or South, but has to aim for a compromise. In terms of economic beliefs, this European middle road leads the ECB closer to economic orthodoxy than the US Federal Reserve or the Bank of England. While Southern European beliefs and preferences appear closely aligned with Anglo-American views, the ECB needs to be somewhat more orthodox/hawkish in order not to alienate its members from Northern Europe.

Interestingly, this result also speaks to related studies on this topic. Markus Brunnermeier, Harold James, and Jean-Pierre Landau recently published a book entitled *“The Euro and the Battle of Ideas”*, which approaches the topic from a historical perspective. While their book is much broader in focus, parts of their historical narrative speak directly to the findings presented above:

*“The euro crisis has led to the outbreak of a war of ideas in the European continent [...]. It is a struggle between northern, but above all German, and what are sometimes called southern, but above all French, theories. The debate is not limited to French and Germans: Finns, Austrians, and sometimes Slovaks and Poles behave as if they are more Germanic than the Germans, and France is often seen as a champion of a Mediterranean Europe.”* (Brunnermeier et al. 2016: 2)

While this neatly summarizes the distribution of Eurozone institutions in Fig. 5.9, the authors also observe how differences in economic thinking across continental Europe relate to Anglo-American views:

*“Overall, Anglo-American and French philosophies have many parallels, in particular deep roots in Keynesian thinking and an emphasis on liquidity over solvency considerations. Notably, whenever US or UK politicians lectured EU officials about optimal economic policy, they almost always sided with the French liquidity interpretation—favoring big bazooka and bailout solutions”* (ibid: 11).

Summing up, my survey data suggests that economic beliefs matter a great deal for policymakers’ preferences and the policy choices they make. This goes in particular when conditions of Knightian uncertainty prevail, as during the Great Recession or, to an even higher degree, in the Euro crisis. In these highly unique situations, when past experience is of little help and it is impossible to arrive at a reasonable calculation of what one’s own ‘naked self-interest’ may be, policymakers rely on their ideas about how the economy works in order to make decisions. Importantly, this does not mean that policymakers become ideologues. Rather than some grand economic theory, it is their very concrete ideas about ‘what works’ that influences their decisions. What policymakers believe to be possible critically shapes what they deem desirable (Steinmo 2003).

In the case of European monetary policy, a close examination of central bankers' economic beliefs thus helps us to understand why the ECB remained relatively conservative when compared to its peers. What is more, it enhances our understanding of the occasionally surfacing conflicts within the ECB's Governing Board. What was once considered a dull business dominated by 'very boring guys' (Singleton 2010) has turned into a battleground of economic ideas, which frequently makes headlines in broadsheet and tabloid newspapers alike. And as central bankers continue to struggle with the challenging economic conditions of the 'new normal', this conflictual pattern is unlikely to subside anytime soon.

## 5.6 Policymakers matter!

While the above strongly suggests that policymakers who think differently about the economy are likely to pursue different policies, independent central bankers have an institutional incentive to downplay such differences. After all, the very notion of central bank independence is based on minimized discretion: central bankers are supposed to be apolitical technocrats whose words and deeds are highly constrained by narrow mandates. In this perspective, it does not really matter who the people making these decisions are. This 'myth of neutrality' (Adolph 2013) is important to maintain independence and depoliticize the appointment process for key positions as much as possible. One example of this line of reasoning can be seen in an interview ECB chief economist Peter Praet gave to the Swiss *Neue Züricher Zeitung* in September 2015, when he was pushed on differences between him and his German predecessors:

***NZZ: You give the impression, however, that you take a more Anglo-Saxon approach, whereas your two predecessors, Issing and Stark, were rather more of the tradition of the Deutsche Bundesbank and were, therefore, more stability-oriented in their thinking.***

*PP: I would firmly disagree. I and the entire Executive Board of the ECB have utterly committed ourselves to price stability. That is our mandate, the task enshrined in the European treaties. [...] All of our policies, including the less conventional ones, are aimed at maintaining price stability. By the way, during the time of my predecessor Otmar Issing, the ECB defined more precisely what is meant by price stability: below, but close to, 2%.*

***NZZ: However, on the issue of the purchase of government bonds, there has been a true break with past tradition. Your predecessors were strictly against it, whereas you and Mario Draghi are clearly in favour of these purchases.***

*PP: Who knows what my predecessors would have done in my position. They were not in a situation in which key interest rates had reached the lower limit, thereby leaving hardly any room for manoeuvre in terms of*

*interest rates. However, I am sure that they would also have done everything necessary to fulfil the mandate. (Praet 2015)*

Mario Draghi made a similar argument in response to an interview question by the German tabloid *Bild* about the significance of his Italian origins: *“There is really nobody in the world who is interested in the fact that I am an Italian apart from the German media. And what difference would it make if a non-Italian were now in office? None at all. He or she would pursue the same course as we do now”* (Draghi 2016c). The message is clear: do not personalize monetary policy, it does not matter who is at the helm!

However, the analysis above suggests that it is of utmost importance who is taking a seat inside the Governing Council. As central bankers can and do differ in their views of how the economy works, these differences are an important factor for the policies they pursue. Policymakers – and the beliefs they hold – matter! To demonstrate how economic beliefs influenced ECB decision-making, I now return to the specific path the ECB chose to take in its fight against the Great Recession and the Euro Crisis. The following chapter offers a detailed narrative of what the ECB did and didn’t do since 2007 with a particular emphasis on the policy positions different actors argued for.





## 6. WHAT CENTRAL BANKERS DID AND DIDN'T DO: KEY MONETARY POLICY DECISIONS, 2007-16

*"As I warned in 1993, when the ECB structure was first proposed, having an unaccountable central bank with no parliament above it, its independence protected by essentially inviolable international treaty, was a recipe for excessively and destructive counter-inflationary extremism. This is indeed what has happened in response to the crisis."*

Adam S. Posen, 13 November 2013

In the early days of the crisis, central bankers around the world knew what needed to be done. They were almost unanimous in their responses to the liquidity problems caused by the fall of Lehman Brothers. The focus was on providing liquidity to tumbling financial institutions to prevent credit flows from running dry. Such credit shortage, they feared, could further deepen the recession that followed. And indeed it did, despite the central bankers' coordinated efforts.

Soon, however, divisions would surface. In particular, the ECB started to diverge from the extraordinarily loose policies that its peers pursued to fight the recessions that had taken hold of their economies. Why did the ECB decide not to do more? Or, rather, why did it take so long to adopt the aggressive measures of its peers? This is the central question this dissertation examines, with a particular emphasis on the role of policymakers' economic beliefs.

This chapter provides a detailed account of what the ECB actually did throughout the crisis. It offers a narrative of the ECB's monetary policy decisions in the period of 2007 to 2016, reflecting on the debates surrounding these decisions and the positions key actors fought for. Most importantly, I intend to go beyond giving a purely descriptive account of what the ECB did by also highlighting *the paths it chose not to take*. Such counterfactuals of 'what could have been' require some point of reference, often established through comparisons with similar institutions or a different period in time. Given the ECB's short history and its uniqueness as the world's only supranational central bank, however, finding appropriate points of reference is anything but straightforward. After all, one may argue that no institution like the ECB has ever existed, and no other central bank has to fight a recession of historic dimension while simultaneously facing the threat of disintegration (which may mean extinction).

I propose two categories of comparison: first, the moves made by other major central banks such as the US Federal Reserve and, second, policy recommendations the ECB received from a so-called *Shadow Council* of professional economists. The US Fed and the Bank of England were facing very similar macroeconomic conditions during the period of interest, and the Fed arguably comes closest to the ECB structurally as it oversees a similarly large and heterogeneous currency area and has a similar organizational structure. Taking on the Shadow Council recommendations as well allows me to identify critical junctures, at which the ECB's decisions deviated from what its peers and ECB watchers perceived as the right way to go. Apart from describing the ECB's

policies between 2007 and 2016, the following section thus seeks to provide answers to two perhaps more interesting questions: What alternative ways of dealing with the crisis were discussed and by whom? And why did they fail to win sufficient support for their plans in the ECB's Governing Council?

I divide my chronological narrative into three parts: the initial financial crisis (2007-09), the emergence of the European debt crisis (2010-12), and the ECB's remarkable turnaround after Draghi took over from Trichet (2012-15). Within each of these three sections I first describe the economic situation central banks confronted during the respective period, followed by an account of how the ECB and other central banks responded to these conditions. I then analyze of how ECB policies diverged from the recommendations it was given by the Shadow Council and end by reflecting on the role economic beliefs during this particular period.

## **6.1 When disaster strikes: the response to the financial crisis (2007-09)**

The global financial crisis that began in the summer of 2007 has most likely changed central banking policy for good. It took central bankers just as much by surprise as anybody else, calling their wisdom into doubt and eventually forcing them to engage in policy experiments without historical precedent. Somewhat paradoxically, this big bang has increased central banks' powers vis-à-vis other policymaking institutions while, at the same time, exposing them to levels of criticism not seen in decades. Being the crucial 'game changer' that brought presumably boring central bankers into the limelight, the financial crisis of 2007/2008 seems a logical point of departure for this study.

Even though the dust has had ample time to settle since its outbreak, the jury on what caused the crisis – and whether central bankers are to blame – is still out. Given that experts continue to debate the Great Depression and the role of the Federal Reserve in causing or worsening it until this very day (see Eichengreen 2015), this should come as no surprise. Central bankers themselves point to regulatory missteps and global imbalances as the root causes of the crisis (Johnson et al. 2016: 5-10). They disagree sharply, however, what role their own inflation-targeting policies played. Had their narrow focus on price stability not clearly failed to provide a stable economy? And, more specifically, had overly loose monetary policy fueled bubbles, particularly in the United States? While some adopted such self-critical positions, most central bankers closed their ranks around the argument that, to the extent that they shared some of the blame at all, this was mainly because they did not have the right (macroprudential) tools yet – and not because they used their tools wrongly. In the words of the Riksbank's Lars Svensson (2010): "My view is that the crisis was largely caused by factors that had very little to do with monetary policy".

### ***The end of the Great Moderation: BNP Paribas, Northern Rock, and Lehman***

Whether or not they were to blame for causing the crisis, central bankers had to deal with it once it struck. As the financial crisis is now often associated with its peak – the fall of Lehmann Brothers in September 2008 – it is worth remembering that the trouble in US housing markets that eventually brought Lehman down had already been going on for more than a year. The failure of the British mortgage lender Northern Rock PLC sent the first big shockwave through the global financial system, demonstrating that the slump of US housing prices could claim casualties far beyond American borders. The decline of US housing prices since 2006, amplified through the widespread use of Mortgage-Backed Securities (MBS), had caused a freeze in interbank lending. A triggering event for the evaporation of trust among banks was the announcement of BNP Paribas that it would close several investment vehicles invested in US ‘subprime’ mortgage assets on 9 August 2007.

In hindsight, this was the day the financial crisis begun (ECB 2010: 64). While the BNP Paribas in itself was hardly significant, it did seem to confirm investors’ growing concerns about the value of securities linked to mortgage loans – so many buying them. Ironically, Northern Rock was actually in the business of prime lending to UK households and had practically no direct exposure to US subprime lending. However, the bank’s funding relied heavily on short-term borrowing in capital markets – and it therefore ran into severe difficulties when these markets froze. Thus, even though its own assets looked relatively solid, Northern Rock fell victim to a generalized re-trenchment of its creditors attempting to shed risky exposures (Shin 2009: 102-3).

The Northern Rock episode foreshadowed the troubles ahead in many ways. First, it showed how individual banks could fall victim to a generalized lack of trust. Second, it provided the first example of how the troubles in US mortgage markets could spread globally, even if an institution had little direct exposure to them. The incident brutally demonstrated how deeply US mortgage loans had become embedded in global financial markets and how this carried risks for everybody – not only for those who made these loans in the first place. And, finally, the bank run that followed could in the end not even be contained by the central bank’s liquidity support, resulting in the bank’s nationalization on February 17, 2008. Another bailout followed less than a month later, when the Fed put up \$30 billion to aid the acquisition of investment bank Bear Stearns by J.P. Morgan. By then, in March 2008, it was clear that the global financial system was in dire straits – and central bankers had already spent almost half a year in emergency meetings trying to contain the unfolding crisis.

All this should remind us that ‘the crisis’ by no means started with Lehman. However, the crisis certainly reached a new stage when Lehman Brothers filed for bankruptcy on September 15, 2008. Until this date, the world’s top central bankers were split as to whether they were dealing ‘only’ with a crisis of banking or whether a nearing reces-

sion needed to be fought (Irwin 2013: 128). Now it was painfully clear that financial markets could indeed bring the entire global economy down. Lehman's fall shredded any doubt that the crisis had become a monetary policy issue, and that it was no longer 'only' a problem of financial stability.

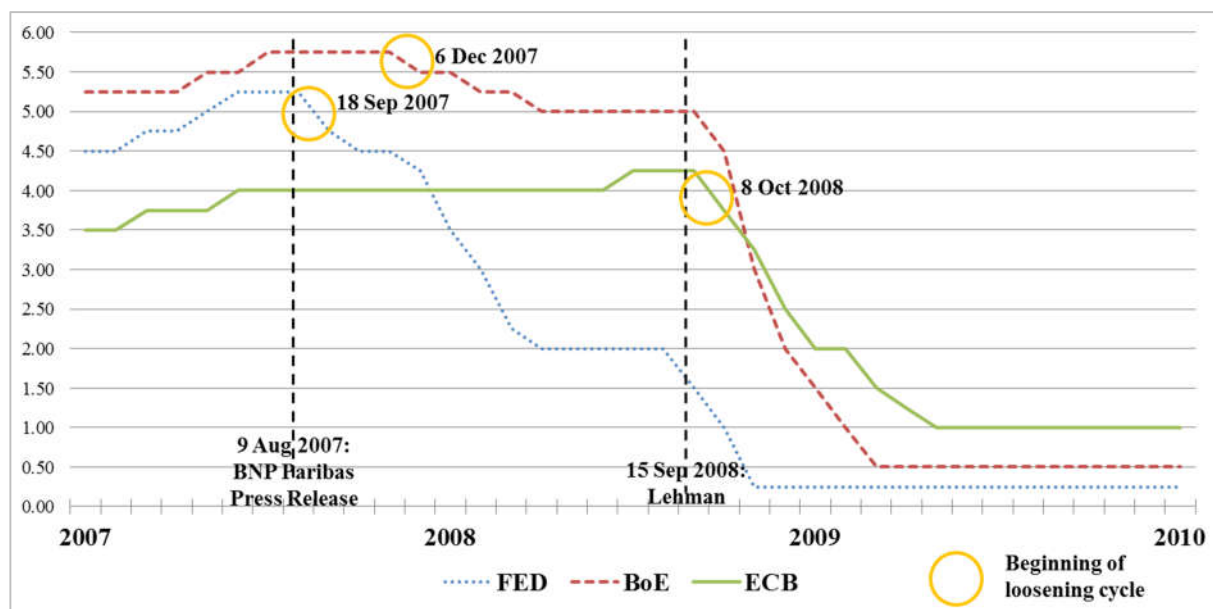
### ***The ECB's responses: a hike, slow cuts, and first forays into bond-buying***

Lehman's fall thus marks the major turning point in the ECB's monetary policy stance during the early stages of the crisis. While it had previously tried to keep its help for struggling banks completely separate from its monetary policy mission, this was no longer a viable option. Up until September 2008, the ECB had continued its tightening cycle begun in the spring of 2006. In the final days of the Great Moderation, the ECB enjoyed an environment of steady growth and contained inflation. In March and June 2007, it raised its main policy rate (the minimum bid rate on the main refinancing operations) in two steps of 25 basis points from 3.5 to 4 percent. Both of these steps were uncontroversial, as fissures in financial markets had not become evident at that stage and forecasts predicted a continuing period of sustained growth. In short: the ECB could focus on its primary job of controlling inflation and it did so by gradually raising rates to keep the economy from overheating.

The ECB's next rate hike in July 2008, however, proved to be much more controversial. By then, the credit crunch had been going on for almost three quarters and was beginning to weigh on both business and consumer sentiment. Consumer price inflation, however, continued to rise in the first half of 2008. Thus, a situation developed in which inflation risks and growth risks gave the ECB conflicting signposts. With economic activity slowing, some already saw a recession coming and demanded rate cuts. At the same time upward price pressures raised the specter of rising inflation expectations. Stuck between a rock and a hard place, then, the ECB followed its inflation-fighting instincts. Its decision to raise rates – while other central banks had long begun to lower them – was mostly the result of worries about second-round effects, namely that record-high commodity prices would lead people to expect higher inflation for the future and, through their price and wage decisions, turn these expectations into a self-fulfilling prophecy. In the press conference on July 3, Jean-Claude Trichet made this reasoning crystal clear: *“We are solemnly telling all economic agents, corporate businesses, price-setters in the economy and social partners that the worst decision they could take would be precisely to believe that what we are observing today, namely this protracted period of high inflation, will last in the medium term”* (Trichet 2008b).

While Trichet stressed that the Governing Council had unanimously decided to raise rates in July, the previous meeting had revealed conflicting views inside the committee, openly admitted by the ECB president (Trichet 2008a). The hike also came as a shock to financial markets, who had been betting that the ECB would follow the Fed and lower rates instead. When the ECB moved in the opposite direction, markets un-

surprisingly condemned the move. Equally harsh, but perhaps more important, was the criticism that came from high politics. French president Nicolas Sarkozy even ignored the (then still widely respected) rule for European politicians not to attack the central bank. He criticized the decision to raise rates as “at best pointless, at worst totally counterproductive”,<sup>93</sup> which made him probably the most prominent critic among many who regarded the ECB’s precautionary tightening as a policy mistake.



**Fig. 6.1:** Interest rates for the Eurozone, the US and the UK 2007-2009  
(Sources: ECB, Fed, BoE)

In hindsight, the critics were vindicated by the events after Lehman. As the financial shock translated into a fully-blown economic recession, the ECB’s strict separation between its liquidity provision for banks and its interest rate tool to steer the economy no longer held. Worries about inflation had to take the backseat for now, even in Frankfurt. As a consequence, the ECB not only joined its fellow central bankers in a concerted effort to stabilize the financial system through massive liquidity operations; it also became part of the first coordinated interest-rate cut in history. On October 8, a joint statement from six central banks was released, stating that monetary easing was warranted. “Accordingly, the Bank of Canada, the Bank of England, the European Central Bank, the Federal Reserve, Sveriges Riksbank, and the Swiss National Bank are today announcing reductions in policy interest rates. The Bank of Japan expresses its strong support of these policy actions”.<sup>94</sup>

While this unprecedented cooperation sent a strong signal, it was not enough to stop the deepest global recession since the Great Depression from happening. Between March 2008 and March 2009, for instance, global stock markets lost almost half of their value (Irwin 2013: 165). Mirroring the dramatic downturn, the ECB’s participa-

<sup>93</sup> “Elysée attacks ‘misguided’ policy of ECB”, *Financial Times*, 2 July 2008.

<sup>94</sup> <https://www.federalreserve.gov/newsevents/press/monetary/20081008a.htm> [accessed 17 May 2016]

tion in the coordinated rate cut was only the beginning of a loosening cycle. The extraordinary cut of 50 basis points on October 12, 2008 (to 3.75 percent) was followed by another one in November and a 75 basis point cut in December (to 2.5 percent). Throughout the first half of 2009, the ECB continued lowering rates until they reached 1 percent in May. Yet 1 percent appeared to be the floor the ECB was unwilling to break through. Consequently the ECB would hold interest rates constant at this level throughout its next 23 monthly meetings.

The ECB accompanied its rate cuts with acting as a lender of last resort (LOLR) for the banking system to absorb the collapse in interbank markets. As banks stopped providing each other with the liquidity needed to carry out their everyday operations, the ECB stepped in and provided practically unlimited funds (Micossi 2015: 13). In central bank jargon, the ECB allocated liquidity through its main refinancing operations (MROs) as well as long-term refinancing operations (LTROs) through a fixed-rate tender procedure with full allotment. Full allotment meant that banks would receive the full amount of central bank liquidity they asked for – as long as they could provide adequate collateral. Remarkably, this procedure was already put in place on Day 1 of the crisis, when the BNP Paribas announcement called banks' finances into question. And as the crisis deepened, the ECB gradually relaxed collateral requirements and extended the loan terms from one month to three years, making it ever easier for troubled banks to fund their businesses (ECB 2010: 64). In other words: the ECB did react remarkably swiftly and decisively to the funding problems of European banks.<sup>95</sup>

In addition to these measures, which were termed 'enhanced credit support', two other non-standard operations are worth noting. First, the ECB entered into swap agreements with other central banks, which made it possible to provide their banks with other currencies as well, most importantly with US dollars. Second, once the ECB had reached its temporary interest rate floor at 1% in May 2009, it announced a bond purchasing program (CBPP1). The program, under which an aggregate volume of €60 billion of covered bonds were purchased within a year, was another building block in the ECB's credit easing approach. It aimed at easing the provision of credit by reviving a market segment which in normal times provided an important source of funding for European banks but had dried up as a consequence of the crisis (Beirne et al. 2011: 9).

Interestingly, the ECB's first foray into asset purchases resulted in its second political assault in just under a year. After France's Nicolas Sarkozy had criticized the ECB's rate hike in July 2008, Germany's Angela Merkel now struck as the ECB went towards loosening. While most of her highly unusual stab at central banks focused on

---

<sup>95</sup> In fact, the ECB's surprising move to inject money into the banking system in response to the BNP Paribas announcement was the first response of a major central bank to the financial crisis. While it has been criticized a lot for being behind the curve regarding its interest rate policies, this is certainly not true for its liquidity operations.

the steps the Fed and the BoE had undertaken (expressing a “great deal of skepticism” towards their policies and calling on them to “return to a policy of reason”), she also scolded the ECB for “bowing to international pressure with the purchase of covered bonds”.<sup>96</sup>

### ***Policies abroad: cutting rates to zero and starting the printing press***

Unusual as it was, it is also telling that Angela Merkel criticized foreign central banks more harshly than her own. It underlines that the ECB’s conventional and unconventional policies paled in comparison to the much more drastic policies undertaken elsewhere. Regarding interest rates policy, this goes in particular for the period in between the start of the financial turmoil and the Lehman crash (see Fig. 4.1): over the course of these 13 months, the Federal Reserve lowered its main interest rate a full seven times (–325 basis points in total), the Bank of England three times (–75), while the ECB was going the other way (+25). This underlines that in those early days, the world’s major central banks had very different interpretations of the crisis. Especially the sharp divergence between the Fed and the ECB puzzled observers and stimulated quite a bit of debate. As both central banks simultaneously faced downside risks to growth and upside risks to inflation, why did the Fed immediately switch into recession-fighting mode while the ECB did not? In the words of Martin Feldstein (2008): “The European Central Bank and the Federal Reserve are facing similar problems but pursuing different policies. [...] Which central bank is doing the right thing?”

The Lehman crash did not change this pattern of divergence. While it brought about drastic responses by all major central banks, the differences in their responses persisted. On the interest rate front, the Fed and the BoE quickly cut rates until they came very close to zero, while the ECB was unwilling to go below 1 percent (see Fig 6.1). This, however, did no longer preoccupy central bankers as much. In the aftermath of Lehman, the Fed and the BoE increasingly shifted the focus away from interest rates and towards printing money. Bereft of the opportunity to cut rates further (or so they thought), they increasingly relied on balance sheet operations, in short: QE. According to BoE governor Mervyn King, the latter immediately follows from the former: “We are very close to zero. What we are doing now is switching to injecting money into the economy directly.”<sup>97</sup> This was in March 2009. The Fed had started the printing press already in November 2008, when it began buying \$600 billion of mortgage-backed securities with freshly minted money. They saw expanding the money supply through balance sheet policies as a logical continuation of lowering interest rates, once they had reached zero.

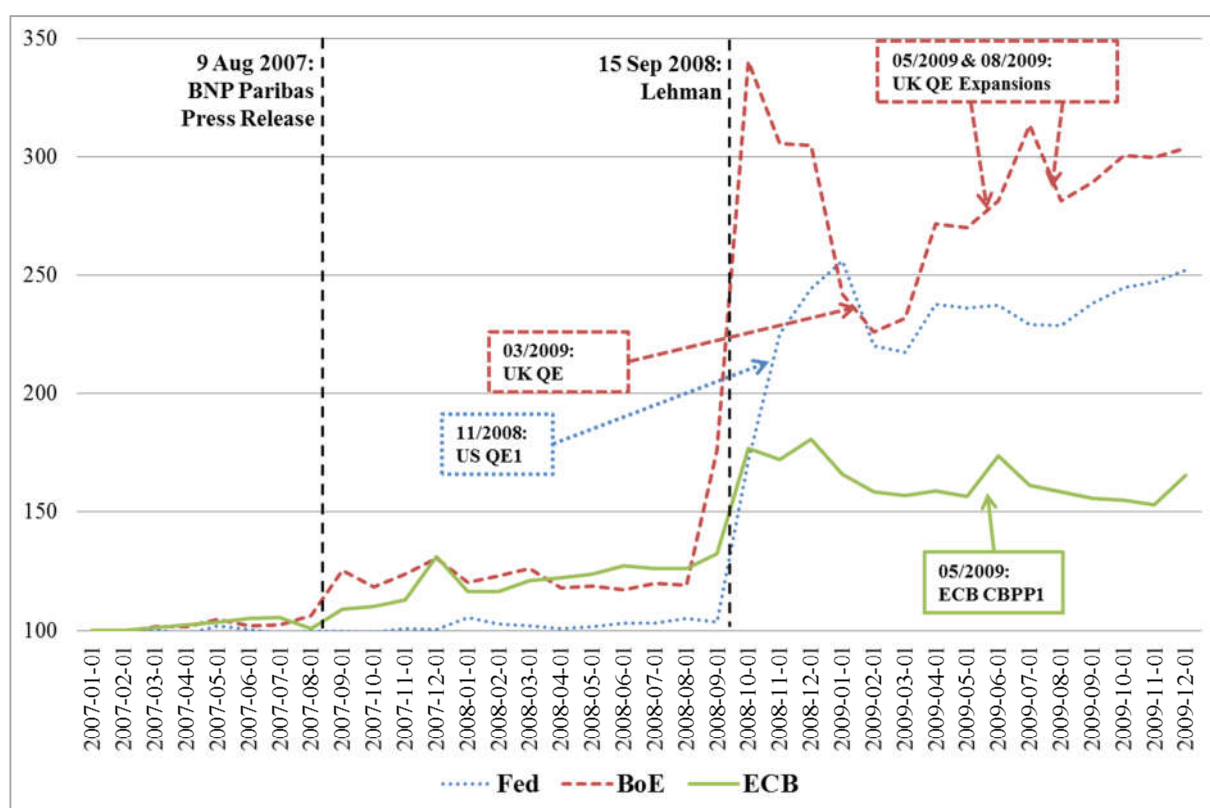
Again, the ECB withstood calls to follow the Fed. While it did make use of its balance sheet, it did so to repair certain market segments rather than to increase the money

---

<sup>96</sup> see Germany Blasts 'Powers of the Fed', *Wall Street Journal*, 3 June 2009.

<sup>97</sup> “Bank begins 'printing money' to fight slump”, *The Guardian*, 6 Mar 2009.

supply. This approach has become called ‘credit easing’ (CE). Under a pure QE scheme, what kind of securities the central bank buys is of only secondary importance, or “incidental” (Bernanke 2009). What matters is that it buys *something* in order to inject money into the system. In contrast, a CE program like the ECB’s first program to purchase covered bonds (CBPP1) is all about which securities are being bought (see Fawley & Neely 2013: 55). Trichet insisted that *CBPP1 was not QE* and would not expand the ECB’s balance sheet. He expected the purchases to be sterilized automatically because they would reduce demand for bank liquidity allocated through the LTRO programs. A quick look at the ECB’s balance sheet throughout the second half of 2009 proves his point: the CBPP1 had little impact on the size of the ECB’s balance sheet (see Fig. 6.2 above). More generally, the ECB used its balance sheet only modestly in between 2007 and 2010 – in particular when compared to the Fed and the BoE.



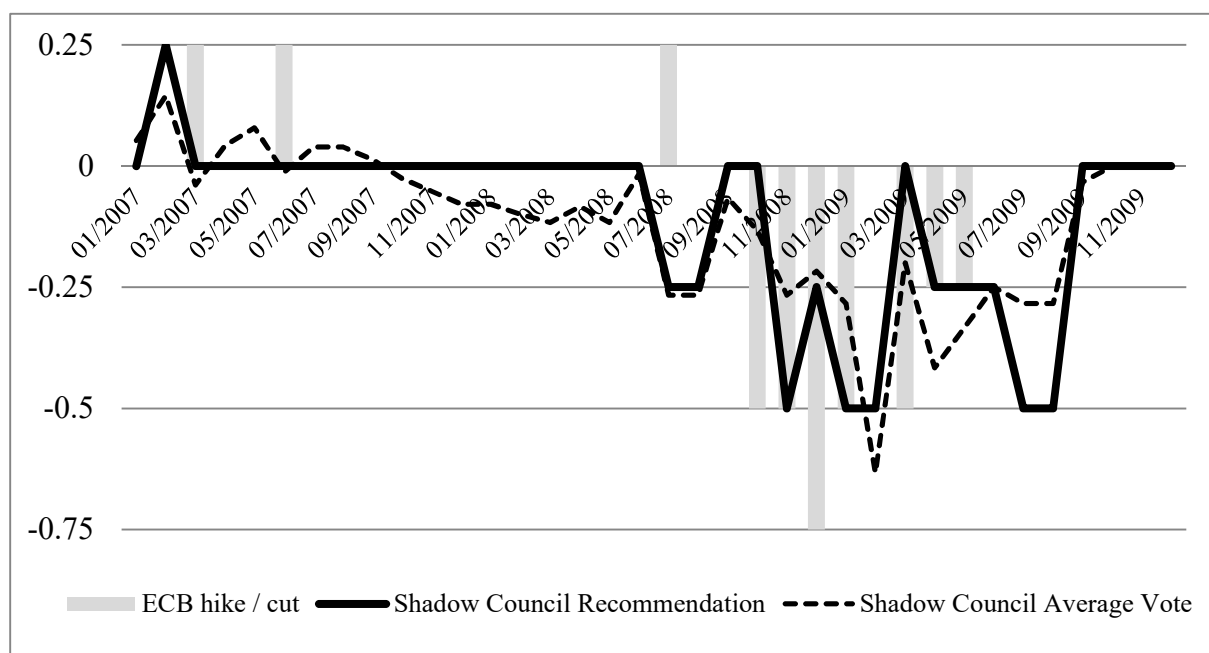
**Fig. 6.2:** Total Value of Assets: ECB, Fed and BoE, 2007-2009 (1 Jan 2007=100)

### *Advice from the shadows*

One may object to comparing the ECB’s policies to those of the Fed and the BoE. Even though they faced roughly similar macroeconomic conditions between 2007 and 2010, the currency areas they govern differ in important respects, most crucially regarding their financial systems. And, indeed, the specific designs of their balance sheet operations in the early days of the crisis reflect these different financial structures: the Fed and BoE bought securities in financial markets, while the ECB primarily lent to banks. Therefore a second category of comparison may be called for: the recommendations of a so-called ‘*ECB Shadow Council*’. Just like other central banks’ shadow



committees,<sup>98</sup> this panel of professional ECB watchers has given itself the task of stimulating public debates about how the independent ECB fulfills its mandate.<sup>99</sup> The ECB's Shadow Council (SC) was founded by the *Wall Street Journal* and the German business newspaper *Handelsblatt* in 2002 and brings together 15-18 monetary experts from academia, think tanks and financial institutions. Unlike the real Governing Council (GC), the SC publicizes not only its final recommendations what the ECB should do, but also its deliberations and individual votes. As such, the monthly SC recommendations and discussions offer a rich source of data which is tailored to the specific circumstances of ECB decisions. Due to its regular meetings and structured minutes, the SC allows us to systematically assess the broader discussion around individual ECB decisions. In particular, it allows for quantifying the divergence between ECB decisions and SC assessments. This regularity and measurability makes the SC data arguably the best source available to systematically assess the *paths the ECB chose not to take*.



**Fig. 6.3:** *Shadow Council Recommendations and ECB Interest Rate Decision, 2007-09*

I use Shadow Council data as a proxy for broader public debates about what monetary policy the Eurozone needs. Not only are individual SC economists very active participants of public debates on central banking issues; the SC's recommendations themselves are also often picked up in the media and thus influence public discourse (Neuenkirch & Siklos 2013: 136). As the SC arrives at one common interest rate recommendation (by simple majority voting) but also publishes individual votes, I computed

<sup>98</sup> The original idea goes back to the 1970s, when Karl Brunner and Alan Meltzer founded the Shadow Open Market Committee (SOMC) to parallel the Fed's FOMC. Similarly, the Bank of England's Monetary Policy Committee (MPC) is since 1997 shadowed by a Shadow MPC (SMPC). Similar shadow institutions were established for the central banks of Australia, Canada, and New Zealand (Neuenkirch & Siklos 2013: 136).

<sup>99</sup> "ECB Shadow Council Is Set To Stoke Debate Over Rates", *Handelsblatt / Wall Street Journal*, 4 Dec 2002. <http://www.wsj.com/articles/SB1038955049540408473>

two different measures for deviations between the SC and the ECB. Figure 6.3 above shows a) to what extent the SC's recommendations and b) the average of individual votes differed from ECB decisions in the early years of the crisis. While the SC recommendation provides the most straightforward measure for comparison, the average vote reveals shifts in the SC's policy bias. It thus captures the more subtle movements when a minority of SC members changes their opinion.

In line with Neuenkirch & Siklos (2013), I find that the SC was consistently less hawkish in its policy orientation than the ECB's Governing Council. A value of 0 in Fig. 6.3 indicates perfect agreement between SC and GC, while a positive (negative) value implies that the SC recommended higher (lower) rates than the ECB subsequently adopted. The grey bars then display the ECB's actual rate decisions: three hikes of 25 basis points until July 2008, and then a series of cuts following the collapse of Lehman Brothers in September 2009. To give one example how to interpret the graph: if the ECB decision shows a value of -0.75 and the value for the SC recommendation is at -0.25 (as in December 2008), this implies that the SC recommendation was to cut rates by 1 percent.<sup>100</sup> The graph shows that the SC actually favored higher rates in early 2007: the meeting of February 2007 is the only one in this period for which the SC recommended a hike and the ECB did not follow suit (but did so one month later). We can also see that the SC's bias throughout the first half of 2007 was for (slightly) higher rates.

However, the SC soon started to recommend a more accommodative policies than the ECB was willing to deliver. First the SC's *bias* turned towards lowering rates while the ECB held them constant. Then, with the surprising and much criticized rate hike of July 2008, the SC's recommendation started to diverge from ECB policy. Finally, when the ECB started lowering rates after Lehman, the SC consistently argued for bigger and faster rate cuts. In particular, it disagreed with the ECB's decision to stop loosening policy once it had reached the 1 percent threshold and urged the GC to move closer to zero. It was not before the recession somewhat abated towards the end of 2009, that Shadow Council and Governing Council would see eye to eye again.

Beyond the numbers the SC provided, its minutes strongly recommended more aggressive policies. As early as January 2008, the SC urged the ECB to remove the bias towards higher rates in its communication and prepare the public for lower rates instead (SC, 31.1.2008). After Lehman, "most members felt that the ECB has been easing rates too late and too little, and thus still had some catching up to do" (SC, 30.1.2009). In particular, it saw "no reason to set a rate floor at 1%" (SC, 1.5.2009) and more than two thirds of its members advocated some form of unsterilized QE (ibid.). When the

---

<sup>100</sup> It is important to bear in mind that an alternative interest rate *path* cannot be generated from the SC data. This is because the SC always bases its recommendation on the current level of ECB interest rates. If, for instance, the SC recommends a rate hike of 25 basis points for three meetings in a row and the ECB decides to hold rates at current levels in all three meetings, it does not follow that the SC would recommend a level of interest rates being 75 basis points higher.

ECB finally started purchasing assets under the CBPP1, the SC welcomed the move but found its size rather modest (SC, 29.5.2009). In sum, the SC perceived the ECB to be behind the curve for most of 2008 and 2009 and often argued it should follow the lead of the Fed and the BoE. In the words of SC member Marco Annunziata (and Chief European Economist of UniCredit): *“I see no plausible reason for the ECB not to follow the more aggressive course of action of other major central banks.”* (SC, 27.4.2009).

### ***Different perceptions, different solutions***

In sum, the ECB's responses to the first stage of the crisis (from 2007 to 2009) remained remarkably conservative. As economists like Martin Feldstein and Marco Annunziata highlighted, ECB policymakers and their colleagues at the Fed faced very similar economic conditions. Yet their policies differed sharply, in terms of both conventional and unconventional policy. This surprising degree of policy divergence reflects very different interpretations of the nature of the crisis – and different lessons from history. A look at Fed-chairman Ben Bernanke illustrates the point. Having spent much of his academic career studying the Great Depression, he knew that problems in the financial sector had the tendency to spread to other areas of the economy – a risk the Fed had severely underestimated in the 1930s, according to his own research (Irwin 2013: 119-20). Now chair of the Fed himself, Bernanke appeared determined not to repeat past mistakes and thus employed extraordinary measures to fight the recession early on.

While Bernanke worried that the financial turbulence would bring down the whole economy, Jean-Claude Trichet was less concerned. He saw a banking crisis, full stop. The ECB thus tried to keep liquidity operations largely separate from monetary policy (see Blinder 2013: 94). Yes, the ECB would provide emergency liquidity support to a troubled banking sector. But no, this would not change its approach towards the economy as a whole. Trichet made this rather clear by invoking a metaphor:

*“A central bank has one emergency room which – sporadically – tackles casualties of car accidents and applies angioplasty and bypass surgery. These are, for example, the exceptional decisions on the refinancing on the money market to help it normalize its functioning. But these activities – critical as they are to the functioning of the system – make up a small fraction of their duties.”* (Trichet 2007b)

To paraphrase Trichet: just because we have to deal with the victims of a serious accident in our emergency room, we are not going to change the way we run this hospital. We will not allow this emergency to distract us from our main task, which is to control inflation.

This suggests that different history lessons prevailed in Europe. If US central bankers were scarred by the Fed's mishandling of the Great Depression, ECB policymakers appeared much more fearful of a hyperinflation à la Weimar Republic. Because they feared the inflationary effects of money printing, ECB policymakers shied away from implementing unsterilized bond purchases. The decision to put only a limited and sterilized program for bond purchases in place corresponds closely with two convictions analyzed in my survey: the Monetarist belief that 'inflation is always and everywhere a monetary phenomenon' and the concern that the growth of base money will have inflationary effects even when interest rates are close to zero.

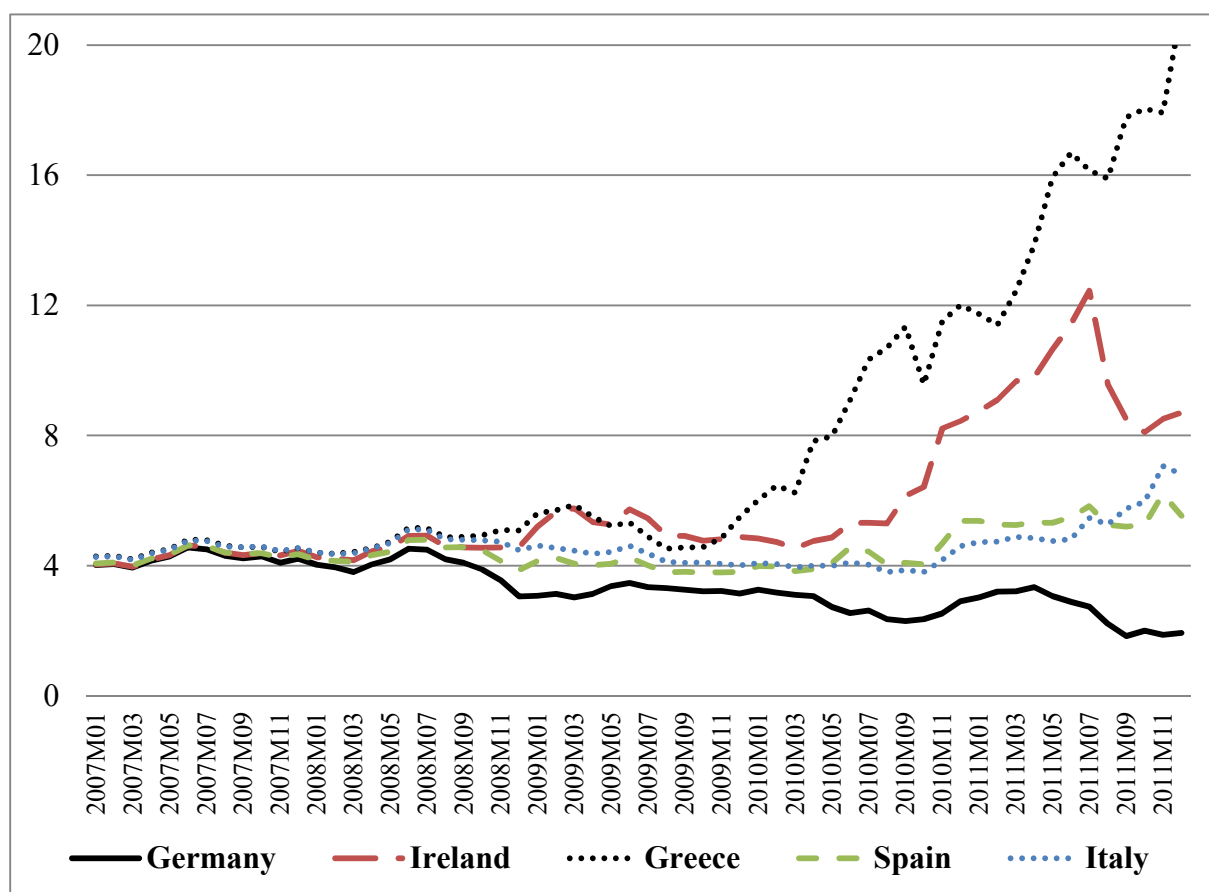
It is important to note that these beliefs were not absent from the US debate. Here, mostly conservative politicians and economists heavily criticized the Fed's policies and predicted that runaway inflation would result from QE. For instance, Allan Meltzer (2009) published an opinion piece in *The New York Times* arguing that "the enormous increase in bank reserves – caused by the Fed's purchases of bonds and mortgages – will surely bring on severe inflation if allowed to remain." Unlike the ECB, however, the Fed's Open Market Committee under the leadership of Bernanke remained unconvinced by such concerns. They believed that a rise in the monetary base would not be inflationary in a liquidity trap.

This different way of thinking about how monetary policy works at the zero lower bound becomes also evident when contrasting the official ECB stance with the Shadow Council's recommendations. Perhaps the most obvious example is expressed in the SC's reaction to an announcement Trichet made in January 2009. He stated that the Governing Council did not want to cut rates further to "very low levels" because it was keen to avoid getting caught in a liquidity trap (Trichet 2009). This was met with skepticism at the SC, which held the view that "it was not very low rates per se which constituted a liquidity trap, but rather the possibility that even at zero rates the monetary stimulus would be insufficient. Therefore, members argued that the desire to avoid such a situation should serve as an argument to cut rates aggressively, providing the necessary stimulus as early as possible" (SC, 30.1.2009). In this case, a different view of how the economy works led the SC to recommend sharply different policies.

Interestingly, such views were not entirely absent from the ECB's Governing Council either. The Governor of the Central Bank of Cyprus, Athanasios Orphanides, also made the case for cutting rates to zero quickly in order to avoid having to resort to unconventional policies later (see Orphanides 2009). Judging from the ECB's decisions, however, Orphanides found himself in the minority within the GC while the majority of another committee of economists – the Shadow Council – agreed with him. This suggests that the ECB might have taken a different road early on if its policy committee had comprised more policymakers with a different view of the economy.

## 6.2 Worlds apart? Europe's special path 2010-2012

After a short period of relative calm, the crisis took on a distinct European flavor. If the financial events around the fall of Black Rock and Lehman Brothers had not been dramatic enough, this stage of the crisis would pit Europe's people against each other and eventually call the Euro's very existence into question (and, hence, the existence of the ECB itself). What would soon be labelled the 'Sovereign Debt Crisis' started at the end of 2009, when the newly elected Greek government announced that the budget deficit they inherited was worse than their predecessors had claimed. Much worse! Instead of being around 6 percent of GDP, the Greek deficit for 2009 amounted to a shocking 15.7 percent – the highest public deficit worldwide. As the Greek government struggled to come up with precise estimates of just how bad the situation was, there was not one big bang announcement that made alarm bells ring. Rather, the estimates worsened at a creeping pace, and so did the reactions of financial markets. Even though Greece's credit rating was downgraded by all big rating agencies throughout December, it was not before January 2010 that investors started reconsidering their investment in the Greek state. Then, however, the Greek government's borrowing costs quickly went through the roof (see Figure 6.4 below).



**Fig. 6.4:** Interest rates of government bonds with 10-year maturities for selected Eurozone countries, 2007-2012 (Source: Eurostat)

The story of how the Greek tragedy turned into a threat to the entire European integration project has already been told many times (e.g. Pisani-Ferry 2014; Sandbu 2015a) and this is not the place to repeat it at great detail. I thus restrict myself to reminding the reader of a few key developments that were particularly relevant for the purposes of Eurozone monetary policy (and, hence, this dissertation). First of all, concerns about EMU member states' budgets quickly spread after the Greek debacle. As the time lag between news from Greece and rising bond spreads suggests, this was not only a result of the shocking numbers presented by the Greek government. More than anything else, the insistence of other EU governments that they would not bailout Greece reminded investors that EMU countries were actually not all the same. In fact, once EMU was created, huge differences in all relevant aspects for pricing country risks persisted: no convergence regarding countries' public debt levels occurred. Yet all EMU members enjoyed practically identical borrowing costs, suggesting that markets never believed the notorious 'no-bailout' clause that EMU members 'shall not be liable for or assume the commitments of' another EMU country (see Pisani-Ferry 2014: 81).

This suggests that investors had stopped worrying about the creditworthiness of individual EMU member states; they only concerned themselves with the creditworthiness of the Eurozone *as a whole*. When core EMU governments (Germany in particular) tried to appease their enraged electorates with promises not to pay for Greek debt, however, investors rediscovered the relevance of individual countries' economic fundamentals. And much like worries about Bear Stearns had spread to other banks in 2008 the Greek problems quickly began to affect other European governments, too. While they differed immensely regarding their debt levels, Ireland, Spain, and Portugal had produced very large budget deficits in 2009 as well. Add Italy with its notoriously high level of public debt to the mix and you arrive at what became charmlessly called the PIIGS countries. Markets seemed to reevaluate the risks associated with PIIGS governments' debt instruments, so they all saw their borrowing costs soar. And before the ECB knew it, the Greek problem had turned into the 'Euro crisis.'

### ***The escalation of ECB politics over the issue of bond purchases***

Due to the escalating crisis in European sovereign bond markets, interest rate policy took the back seat in 2010. The series of cuts undertaken over the course of the previous year did not leave much more room for maneuver in any case. What is more, the post-Lehman recession seemed to be abating, making rate cuts a non-issue for the moment. With a modest recovery underway and Greece's shocking public finances making headlines, the G-7 meeting in Iqaluit, Canada, signaled a global change of course: stimulus was out, belt-tightening the order of the day (Irwin 2013: 207-15). Therefore, the 'ordinary' monetary policy debates of early 2010 focused mostly on the when and how of exit from the extraordinary measures undertaken in 2009.

In the meantime, however, the Euro crisis forced the ECB knee-deep into contentious politics. By the start of 2010, the Greek problem had become a concern for the ECB. In its press conference on January 15, much of the Q&A session focused on the issue. While Trichet expressed concerns about the evolving situation, he called the speculation about Greece having to leave the euro an “absurd hypothesis” and laid the burden of problem-solving at the door of governments. No help from the ECB could be expected, was his clear message: “*No government, no state can expect any special treatment from us*” (Trichet 2010). However, this proved to be wishful thinking. The sovereign debt crisis quickly escalated and began to affect the transmission of monetary policy – and the ECB itself forced to intervene only weeks after the statement.

Even before the ECB joined the IMF and the Commission as part of the so-called ‘Troika’, Trichet had to backpedal: by accepting Greek Government Bonds as collateral (despite their terrible ratings), the ECB did offer Greece the ‘special treatment’ it had been keen to avoid. However, neither this nor the half-hearted Greek bailout in April 2010 restored confidence. Investors were simply not convinced that the EU was both willing and able to prevent the crisis from spiraling out of control. As these financial market developments once again started to weigh on the global economy, international pressure grew. The ECB was expected to take decisive action before the vulnerable economy would take another, perhaps fatal, blow – no matter which taboos existed. SC member Jacques Cailloux of the Royal Bank of Scotland best summarized this line of thinking: “Rather you break the rule book than the euro area!”<sup>101</sup>

That big taboo was, of course, the issue of ‘monetary financing.’ Article 123(1) TFEU prohibits the ECB from *directly* purchasing governments’ debt to finance their budgets.<sup>102</sup> Consequently, proponents argued that the ECB could simply buy government bonds in secondary markets. In the end, this is what the Governing Council after controversial discussions agreed to do with its Securities Market Programme (SMP). From May 2010 onwards, the ECB bought about €220 billion of PIIGS government bonds (Micossi 2015: 13-15). The purchases, however, were limited, temporary, and sterilized, meaning that for every single euro spent on government bonds under the SMP the ECB withdrew one euro through other means. Therefore, the program did not increase the monetary base like the QE policies of other central banks did (Fawley & Neely 2013: 72). The SMP thus aimed not at providing monetary stimulus, but to restore the functioning of the monetary policy transmission mechanism by providing liquidity to markets in panic.

---

<sup>101</sup> “Trichet May Rewrite ECB Rule Book to Tame Greek Risk”, *Bloomberg*, 4 May 2010.

<sup>102</sup> “Overdraft facilities or any other type of credit facility with the European Central Bank or with the central banks of the Member States (hereinafter referred to as ‘national central banks’) in favour of Union institutions, bodies, offices or agencies, central governments, regional, local or other public authorities, other bodies governed by public law, or public undertakings of Member States shall be prohibited, as shall the purchase directly from them by the European Central Bank or national central banks of debt instruments.”

So the ECB did not buy government bonds to create new money; and the ECB did not buy government bonds from governments. Yet the ECB *did* buy government bonds – and that was enough to infuriate monetary conservatives, particularly in Germany. Consequently, the SMP put an end to the ECB’s informal rule of keeping the world in the dark about disagreements within the ECB’s Governing Council (Kübler 2012: 33). Bundesbank president Axel Weber broke the ranks by saying that the SMP posed significant stability risks and publicly insisted that he was “critical toward this part of the ECB council’s decision, even in this extraordinary situation” (Weber 2010). Weber and the second German member of Governing Council, the ECB’s chief economist Jürgen Stark, may have been the most prominent opponents of the SMP. But they were by no means the only ones. The German media was furious and accused the ECB of breaking the law, arguing that the SMP’s real purpose was to keep peripheral government bonds marketable. And this, the argument went, would be a form of financial support for governments and clearly beyond what the bank is empowered to do under Article 123(1) TFEU (see Ruffert 2011: 1787 f.). Even if the SMP operations were technically legal, they were against the *spirit* of Maastricht as the Germans saw it.

Initially, the SMP appeared to work some magic. It is, for instance, being credited with giving Spanish and Italian bonds some support throughout 2011 (Fawley & Neely 2013: 72). Yet, it was clearly insufficient to stop government costs from diverging (see Figure 6.4 above). Over the medium-term, spreads continued to rise and the PIIGS governments lost their access to financial markets, one after another. Thus the SMP is usually evaluated as having had only a modest effect (Gibson et al. 2015). Politically, however, the program proved to be extremely consequential. Over the course of 2011, both German members of the ECB’s Governing Council left their posts in protest against the purchases (Eser & Schwaab 2016: 148). The resignation of Bundesbank president Axel Weber, who also withdrew his promising candidacy to become the next ECB president, was followed by Jürgen Stark giving up his post as the ECB’s chief economist only months later. In hindsight, the political divisions the SMP created would last much longer than its calming effect on financial markets did.

### ***Ending the Trichet era with a rate hike***

The second big upset of the 2010/11 period came shortly before Jean-Claude Trichet ended his eight-year reign over the ECB. Having taken over from Wim Duisenberg in 2003, Trichet became the first ECB president to serve a full eight-year term. And he ended it very much in line with his reputation of “speaking French with a German accent”: by tightening policy. Even as the PIIGS’ public finances sent EU leaders to crisis summit after crisis summit and forced the ECB to delve ever deeper into political terrain through its participation in the Troika, the recovery of 2010 and early 2011 spurred relatively solid economic forecasts. By the beginning of 2011, then, a spike in commodity price inflation set the stage for the return of interest rate politics. Not unlike the situation before Lehman fell, the ECB was once again facing a double menace:



energy and commodity prices drove up inflation numbers, while nervous financial markets threatened to throw the economy back into recession. And very much like in the summer of 2008, the ECB judged the inflation risks to be serious enough to warrant an increase of rates – despite much-debated downside risks. It was “like a déjà vu moment of the 2008 rate increase” (Brunnermeier et al. 2016: 326).

The two rate hikes of April and July 2011 became the final moves of the Trichet era. However, it soon became quite clear that critics had had a point when they called the hikes premature, or even outright policy mistakes (e.g. see Krugman 2011a). The worst fears about the Euro crisis materialized in the second half of 2011, which saw stock prices as well as governments collapsing. By November 2011, the Euro crisis had swept the prime ministers of all PIIGS countries out of office.<sup>103</sup> Nevertheless, Trichet managed to avoid the humiliation of having to take back the rate hikes in his last meeting as ECB president in October 2010.<sup>104</sup> This job was left to his successor, Mario Draghi. In what in hindsight seems more than a coincidence, the first two meetings chaired by Draghi in November and December resulted in the reversal of the two rate increases of 2011. This is why much of the financial press interpreted the change at the helm of the ECB as turning point for ECB policy. An editorial of the New York Times, for instance, celebrated Draghi’s first decision as “*a radical change from the stance of the bank under Mr. Draghi’s predecessor, Jean-Claude Trichet, and a gutsy sign that Mr. Draghi is willing to defy inflation hawks in Germany and is rightly far more concerned about Europe’s relentless slide toward recession*” (New York Times 2011).

### ***Anglo-Saxon money printing, continued***

Perhaps the most important aspect of ECB policy in 2010 and 2011 is its complete disconnect to what other central banks did. Not only did all major banks but the ECB (and the Swedish Riksbank) ignore the uptick in inflation, keeping their rates at (or close to) zero. The Fed and the BoE even stepped up their bond purchases. The Fed launched a second QE program (QE2) in November 2010, announcing that it would add another \$600 billion to the money supply by buying longer-term Treasury bonds. A bold step at the time, QE2 met fierce criticism not only in the US Republican Party but basically all around the world. While the Republicans warned of inflation at home, foreign officials accused the Fed of starting a currency war. Among those was the German Minister of Finance, Wolfgang Schäuble, but mostly officials from emerging

---

<sup>103</sup> Under the Troika agreements, technocrats like Mario Monti rose to power. It even saw an ECB policymaker lead a government, when Lucas Papademos (who had been the ECB’s Vice-President during the early years of the crisis), had a short stint as Prime Minister of Greece (from November 2011 until May 2012).

<sup>104</sup> The location of this last meeting marks another remarkable coincidence: twice a year the ECB holds its press conference not at its own headquarters but someplace else in the Eurozone. As chance would have it, Trichet’s last press conference (in which the ECB ignored calls for lowering rates) would be held nowhere else than at the regional office of the German Bundesbank in Berlin.

economies such as Brazil, China, or Korea – “the strange bedfellows of the great QE2 debate” (Irwin 2013: 257).

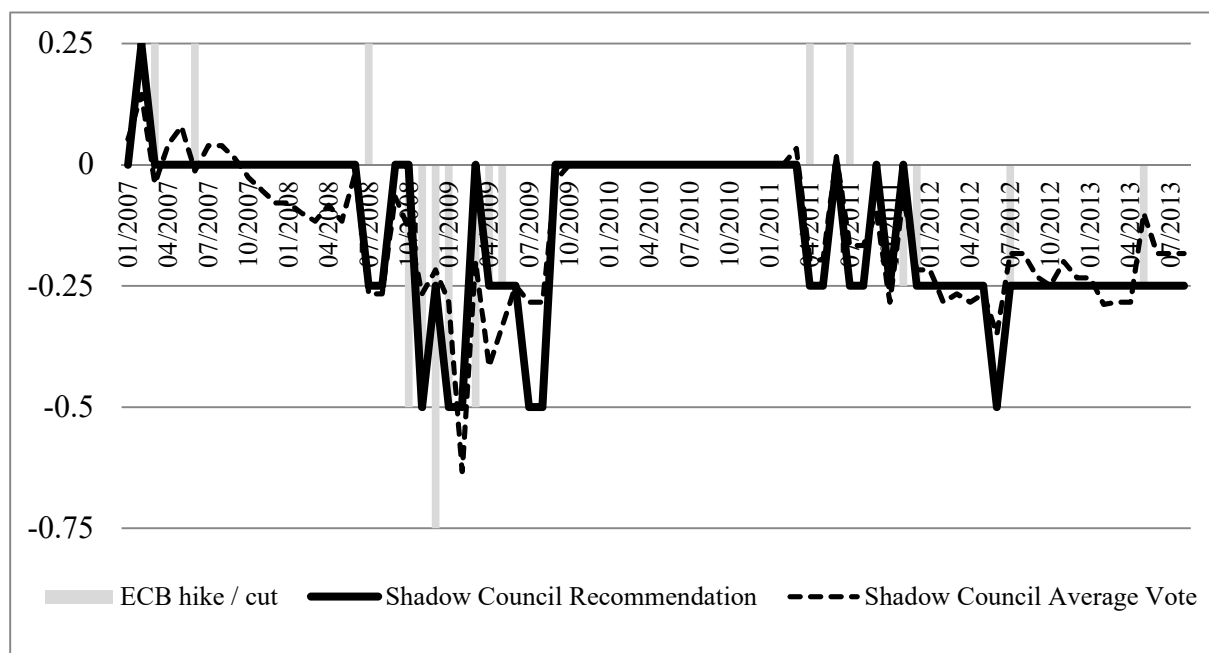
Importantly, QE2 was not without critics inside the Federal Reserve System either. Only a few days after the announcement New York Fed governor Kevin Warsh gave a speech – tellingly titled ‘*Rejecting the Requiem*.’ Warsh warned that the risks of unintended consequences of unconventional policies increased with the size of the Fed’s balance sheet, and argued that the Fed should not be “the repair shop for broken fiscal, trade, or regulatory policies” (Warsh 2010). Such criticism at home and abroad notwithstanding, the Fed under chairman Bernanke continued to push through its easing policy. In September 2011, it even stepped up the stimulus by changing \$400 billion short-term Treasuries for longer-term bonds (‘*Operation Twist*’); all this while the ECB was tightening policy.

The contrast between the ECB and the Bank of England was not as pronounced. The BoE only expanded its QE program further in October 2011, when a policy U-turn was also looming in Frankfurt. What is more, the UK monetary policy committee (MPC) debated raising rates when inflation rose in early 2011, just like the ECB’s committee did. The dilemma of facing both high inflation and high unemployment at the same time produced a classic clash between hawks and doves in the committee. Two external members of the committee and their communications at the time illustrate just how wide the gap between the two camps was: Adam Posen (2010) gave a speech called ‘*The Case for Doing More*’ and called for extending QE, while Andrew Sentance (2011) laid out ‘*Ten Good Reasons to Tighten*’. And Sentance was by no means alone. In the MPC’s February 2011 meeting, as many as three out of nine members even voted for a rate hike (see Irwin 2013: 252-3). Unlike in the ECB’s committee, however, those arguing in favor of tightening remained a minority. By 2017, consequently, the UK is still waiting to see the first increase of interest since the crisis started.

### ***Nods from the shadows***

For most of 2010 and 2011, the ECB’s Governing Council (GC) and its Shadow Council (SC) were on the same page. With interest rates a non-issue, the SC supported both the ECB’s initially tough stance against the Greeks (denying them special treatment) and its U-turn once the situation worsened (SC 29.1.2010). In particular, the bond purchases under the SMP found the SC’s support. Remarkably, two SC members disagreed and called the bond purchases a big mistake – just like in the ‘real’ committee (SC 7.6.2010). As the sovereign debt crisis deepened throughout the second half of 2011, however, a growing minority voiced concerns about the associated growth risks and expressed a bias toward lowering rates. In particular, the SC noticed that the ECB seemed grossly over-optimistic in comparison to other central banks. As SC member Jacques Cailloux put it: “The ECB’s new found confidence about the outlook seems yet again to be at odds with what almost every other central bank is currently witness-

ing” (SC, 25.10.2010) – adding that when the ECB had last decoupled from its major trading partners in 2008, it did not go so well.



**Fig. 6.5:** *Deviation of Shadow Council Recommendations and Average Votes from ECB Interest Rate Decision, 2007-2013*

While rising price inflation also removed the SC’s bias toward lower rates in 2011, it did not go so far as to recommend any rate increases. The majority of the SC, like most commentators and the policy committees of other central banks considered it “unwise or even self-defeating” (SC, 31.1.2011) to raise interest rates at a time when the financial sector was in dire straits. Once the ECB started tightening, however, the SC generally supported a continuation of the tightening cycle, albeit more cautiously than the way the ECB did (SC, 4.7.2011). This is important to note because many commentators – usually enjoying the benefit of hindsight – portray the ECB’s decision to hike rates at the height of the sovereign debt crisis as the crazy mistake that killed the European economy (see Economist 2011b; Krugman 2011a, 2011b; Kang et al. 2015). Once the further escalation of the crisis showed that the hikes had indeed been premature, however, the SC called for a quick and decisive change of course (SC 4.10.2011). Its urge to cut rates would be ignored by the Trichet-ECB in October, but followed by the Draghi-ECB in November.

### ***Ideas: the overriding importance of moral hazard***

It is widely recognized that the ECB, the Fed, and the Bank of England moved in different directions during the period of 2010-11, with the ECB’s turn to tightening policy standing in stark contrast to the continued monetary support elsewhere. However, it is important to note that this period was a difficult one for central bankers and thus produced dissent within *all* monetary committees. There were individual policymakers inside both the Fed and the BoE who shared the ECB’s more optimistic views about

the recovery and, most importantly, its concerns about rising inflation. The monetary policy debates on both sides of the Atlantic were surprisingly similar. The majority view in Frankfurt, however, remained a minority position in the US and the UK. Hence the ‘great divide’.

In terms of monetary beliefs, the years 2010 and 2011 can be seen as a continuation of the previous period. Even under the exceptional circumstances of the Euro crisis, which saw the ECB buy government bonds for the first time, it made sure not to increase the supply of base money (by sterilizing any such purchases). The ECB under Trichet remained fearful about inflationary effects of balance sheet policies. And just like in 2008, it reacted to a rise in energy costs with rate hikes. This implies the ECB’s worry that higher headline inflation would drive up underlying inflation because of second-round effects: if firms and households adjusted their inflation expectations upwards in response to higher energy prices, they would adjust prices and wages accordingly and thereby bring about a sustained increase in inflation. This focus on headline inflation, including volatile energy and food prices, and the associated concerns about second-round effects reveals a different way of thinking about expectations in Frankfurt. While other central banks ‘saw through’ the temporary spike of energy costs, the ECB reacted to them, worried about their effect of expectations. As this proved to be a much criticized policy mistake, “the debate about the 2011 hike eventually resulted in a major rethinking about the way inflation expectations should be inferred by the central bank” (Brunnermeier et al. 2016: 326).

Another Ordoliberal idea took center stage when the Greek debt crisis spiraled out of control, namely the issue of moral hazard. A core concern of Ordoliberals is how to enforce ‘*Haftung*,’ which translates as ‘liability’ but implies ‘responsibility,’ too. This principle has been translated as “whoever stands to benefit [from an action] should bear the damage” (Eucken, cit. in Feld et al. 2015: 14). Or, in the words of Otmar Issing (2016: 307): “The market can only work in the interest of society as a whole if the freedom of action is combined with liability for the consequences of this action.”<sup>105</sup> Thus liability and control need to go hand in hand, because the absence of liability invites agents – or governments – to game the system. This line of reasoning has influenced the design of EMU greatly, especially regarding the convergence criteria, the Stability and Growth Pact (SGP), and – most importantly – the ‘no bailout’-clause.

Unsurprisingly, moral hazard issue dominated discussions of bailouts and the introduction of common safety measures such as the European Stability Mechanism (ESM) or Eurobonds. In May 2010, however, it also entered the monetary policy arena. Because monetary accommodation affects the borrowing costs of governments, critics feared that too much of it would let profligate governments off the hook. While this goes for any kind of monetary loosening, the moral hazard argument is obviously most relevant

---

<sup>105</sup> “Der Markt kann seine Rolle im Interesse der Gemeinschaft nur dann befriedigend erfüllen, wenn die Freiheit der Handlung mit der Haftung für die Folgen verbunden ist“ (author’s translation).

for the purchases of government bonds. As the SMP even implied that the ECB purchased government bonds *selectively* rather than for the currency area as a whole, German critics were furious. In their eyes, the ECB allowed the Greek government to get away with murder – and thus invited everybody else to break the fiscal rules, too.

Therefore many believe the ECB's monetary conservatism in 2010 and 2011 to be linked to the broken taboo of buying government bonds. Having already infuriated the political and economic establishment of its biggest economy and triggered the resignation of two German officials from the Governing Council, the ECB under Trichet appeared to appease the Germans by signalling its strong anti-inflation commitment. Thus, its bond purchases were sterilized and accompanied with a rate hike, which at that time “came in part as a reaction to the German criticism of the ECB” (Brunnermeier et al. 2016: 326).

### **6.3 Too little, too late? The ECB's catch-up policies 2012-2016**

When Mario Draghi took over as ECB President at the end of 2011, he inherited an economy in dire straits. And the worst was yet to come! In hindsight, however, the changeover from Trichet to Draghi marks a turnaround in ECB history. His arrival brought with it a plethora of new policies as well as very different leadership. I argue that a remarkable shift in economic ideas formed the undercurrent of these changes, which allowed Draghi to steer the ECB into new waters. Within the first half of his eight-year term, Draghi has arguably turned the ECB into a different institution; an institution which is much more open to economic stabilization with the means of monetary policy than the ‘old’ ECB or its predecessor, the Bundesbank, had been. As big changes take time, however, the ECB's “remarkable metamorphosis” (Davies 2015) was not accomplished overnight.

The Draghi era began with a double whammy: the economy was headed for another recession, while the Euro's very survival remained in question. The rate cut in his first meeting as ECB President symbolized a policy reversal much-welcomed by outlets like the *New York Times*, which hoped that the cut would set the stage for purchases of government bonds in order “to bring some stability to Europe” (New York Times 2011). This was arguably the primary duty in 2012: the ECB had to first prevent a breakup of the Eurozone before it could reconsider the way it went about its core task of monetary policy. After a relatively calm beginning of 2012, the Euro crisis peaked once more in late spring. By the end of April the complete collapse of the Eurozone seemed a realistic scenario again and investors increasingly priced in a ‘redenomination’ risk premium for PIIGS government bonds, implying a certain probability that these states could be forced to leave the euro (Micossi 2015: 15). It was against this backdrop, that Mario Draghi spoke the three words that earned him the unofficial title of ‘savior of the Euro’. In an attempt to stop speculations about Eurozone break-up probabilities, which risked turning into a self-fulfilling prophecy, he delivered a pow-

erful message at the Global Investment Conference in London on July 26: “*Within our mandate, the ECB is ready to do whatever it takes to preserve the euro. And believe me, it will be enough*” (Draghi 2012a).

### 6.3.1 ‘Whatever it takes’: economic theory in court

The ECB subsequently backed up the famous ‘*whatever it takes*’ remarks with the Outright Monetary Transactions (OMT) program. With the OMT, the ECB’s crisis-fighting clearly reached a new stage. While bond purchases under the SMP had been limited and temporary, they were potentially *unlimited and open-ended* under the OMT scheme. In return, the program introduced the conditionality the SMP had lacked. This means the ECB would potentially buy unlimited volumes of government bonds, but only in exchange for economic reforms. While these specifications are highly relevant, they have yet to be tested. Draghi’s announcement alone was enough to spectacularly reverse market developments. In one way, the policy thus proved to be a free lunch: the credible commitment to do ‘*whatever it takes*’ was sufficient to eliminate the speculative equilibrium (Giavazzi et al. 2013). It seemed to show that credibly committing to purchase government bonds may actually be the best way to avoid making purchases in the first place. Widely considered a crucial turning point in the crisis, the effectiveness of OMT is undisputed. Mario Draghi (2013a) himself claimed that “it’s really very hard not to state that OMT has been probably the most successful monetary policy measure undertaken in recent time”. The *Financial Times* agreed and consequently crowned Draghi as the Person of the Year 2012 for allegedly saving the Euro’.

For all its success, however, the OMT failed to silence critics. Quite the opposite: if the SMP had created frustrations in Germany, the OMT provoked outright anger. As a result, the program even became the subject of legal confrontations in front of both the German Constitutional Court and the European Court of Justice. These courts, then, were to decide whether the OMT qualified as a monetary policy tool, designed to repair the monetary transmission mechanism and thus covered by the ECB’s mandate – or whether it was actually a tool to improve governments’ budgets instead. Curiously, this conjured up a situation in which judges came to evaluate economic theories (Winkler 2014; de Grauwe 2014). The program would be considered legal if the courts followed the ECB’s argument that peripheral sovereign bond prices reflected *unwarranted* concerns about the future of the Eurozone and therefore a completely speculative impairment of the monetary transmission mechanism. However, if these bond prices were considered to reflect underlying fundamentals, as the efficient market hypothesis holds, there would be no need to correct them. Indeed, in this view the ECB’s attempt to correct for market distortions was an attempt to artificially lower ‘correct’ market prices – and thus a source of distortions itself, (de Grauwe & Ji 2015: 743).

Ironically, these opposing positions were argued in front of the German court by two former German colleagues: Bundesbank President Weidmann and Jörg Asmussen, who had replaced Stark at the ECB Executive Board and thus presented the ECB position. Curiously, the two men had not only cooperated well in their previous positions as high-ranking bureaucrats in Berlin; they had also studied together at the University of Bonn, supervised by Weidmann's predecessor Axel Weber. While Asmussen shared the economic worldviews of Stark and Weber (Spiegel 2014), he believed that extraordinary times required extraordinary measures and thus appeared much more pragmatic in his role at the ECB. Regarding his position in the OMT controversy, he said: "You have peacetime and then you have wartime. In peacetime, I'm on the Bundesbank line, but the situation was very different" (Asmussen, cit. in Spiegel 2014).

Following this pragmatic approach, Asmussen was able to build bridges between Frankfurt and Berlin, and seemed the right person to make the ECB's case in court. In his testimony in June 2013 he stated that "the OMT programme seeks only to reduce *unwarranted* interest rate spikes [and was] the necessary and appropriate step to eliminate the disruption in the transmission of monetary policy" (Asmussen 2013, my emphasis). Weidmann, on the other hand, challenged the idea that divergent bond yields constituted a disruption of the transmission mechanism in need of correction. The German judges in Karlsruhe subscribed to Weidmann's reading of economic theory and, consequently, declared the OMT illegal. However, in an unprecedented move it referred the case to the European Court of Justice (ECJ), asking for its opinion with regard to European law.

In June 2015, the ECJ vindicated the ECB's position as they found the OMT scheme in its original form as compliant with EU law – and referred the case back to Karlsruhe. Several German politicians and economists called on the German court not to be swayed by the ECJ verdict, which had made an "unfortunate error of judgment", as Hans-Werner Sinn argued<sup>106</sup> (FT 2015). The German Constitutional Court thus faced a situation in which a ruling in line with its previously expressed opinion could have brought back the Euro crisis and, potentially, unraveled EMU. Consequently, in mid-2016 the German court finally backed down and accepted the ECJ's verdict, thereby confirming its "well-earned reputation of the Dog that Barks but does not Bite" (Weiler 2009: 505). Whichever position one adopts regarding the OMT controversy, the legal odyssey underscored that the ECB's mandate could be understood in very different ways. While critics continue to claim that the program 'clearly' oversteps the mandate, Draghi (2012b) famously held that "fulfilling our mandate sometimes requires us to go beyond standard monetary policy tools."

It is also true that both the position of Germany's Constitutional Court and the counterargument put forth by the ECB and the ECJ do not bode well for the efficient mar-

---

<sup>106</sup> "Mario Draghi vindicated as court backs ECB bond-buying plan", *Financial Times*, 16 Jun 2015.

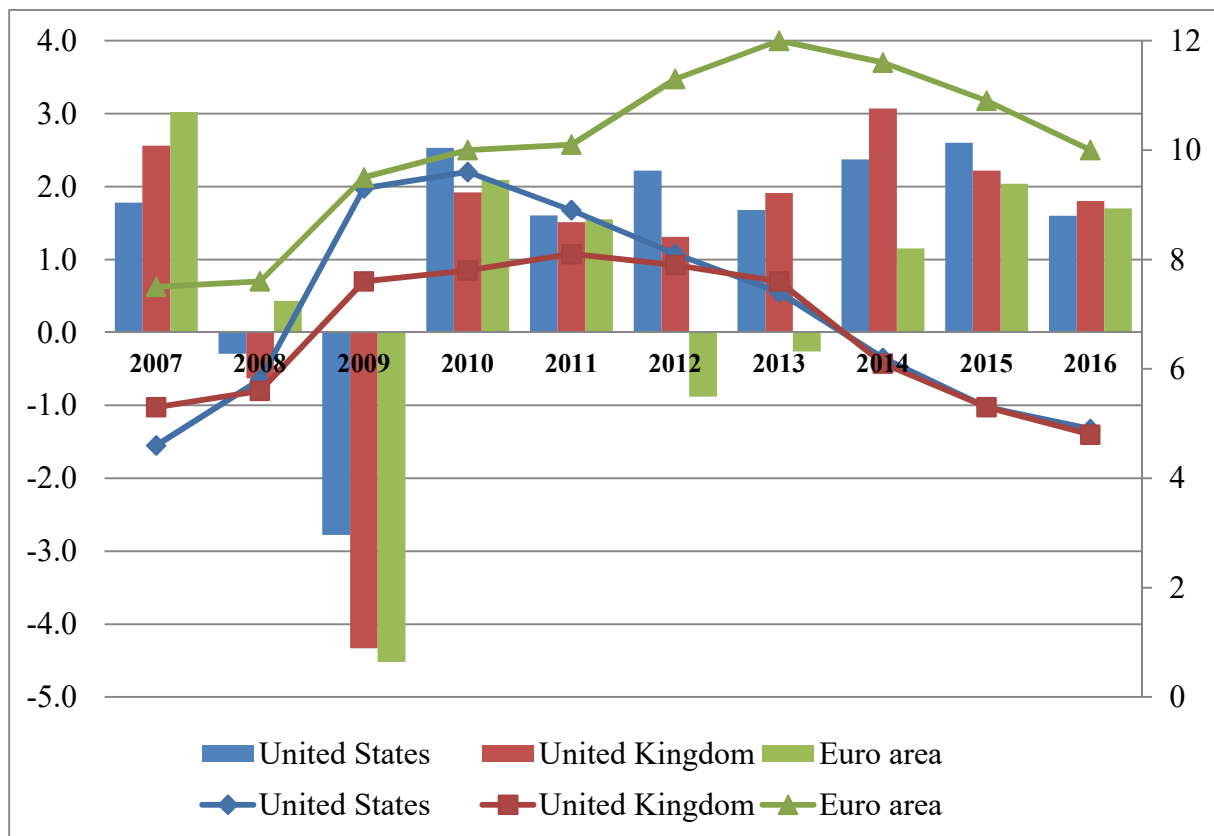
ket hypothesis. While the Germans argued that markets were ‘wrong’ to forget about country-specific risks between the start of the euro and the beginning of the Euro crisis (roughly 1999-2009), European institutions held that they were right then, but were acting irrationally from 2009 onwards. At first sight, the three different stages in European sovereign bond markets between 1995 and 2015 as depicted in Figure 2.3 (see p. 31) appear to support this view. Surely, markets got it wrong at some point; either during the Euro’s first decade or afterwards.

Mark Blyth (2015: 81f.) offers a third perspective, however, according to which markets did not behave irrationally at any stage, but rather immorally. In what he calls ‘*The Mother of All Moral Hazard Trades*,’ Blyth argues that European banks deliberately bought peripheral sovereign bonds in huge amounts to reap the benefits offered by the small but significant differences in yield between core and peripheral bonds. As these banks were both excessively leveraged and too big to fail from a national perspective, they could count on their government to bail them out in case that trade would incur losses large enough to threaten their existence. According to this view, financial market actors had not forgotten about country-specific risks once the Euro arrived; they simply didn’t care. The problem, according to Blyth, was that each individual bank could successfully play that game if it was too big to fail individually; if many or all banks played after the same logic, however, they became too big to *bail* collectively. And this dynamic threatened the very survival of the Eurozone, at least until Mario Draghi spoke his magic three words.

### **6.3.2 A long time coming: Eurozone QE**

The OMT undeniably eliminated the most immediate threat for the Eurozone, but it did not end the recession. The euro had survived, but most of its member states remained in a precarious state, economically and politically. To state it differently: while it overcame the risk of acute heart failure, this did not mean that the Eurozone’s chronic diseases were cured as well. To the contrary, after the double dip recession of 2008/09 and 2012, the Eurozone economy failed to recover reasonably swiftly. A brief look at economic fundamentals demonstrates this: after having moved more or less in tandem with the US and the UK throughout the first stage of the crisis, real GDP growth in the Eurozone fell behind after 2011 and never caught up (see Figure 6.6). At the same time, unemployment remained stubbornly high ever since the fall of Lehman and rose even further after 2011, in particular in the PIIGS countries.





**Fig. 6.6:** Real GDP Growth (bars, left axis) and unemployment (lines, right axis) in the Euro Area, the US and the UK, 2007-2016

Over the following years, the ECB tried a variety of approaches to address the ongoing economic malaise: negative interest rates, forward guidance, and still more liquidity for banks. However, it would not add the ultimate weapon of QE to its armory until January 2015. While the BoE repeatedly extended its purchases, and the Fed went from QE2 to QE3, the ECB remained skeptical that QE indeed was what it took for the Eurozone to recover. All other tools had to be exhausted first. Regarding interest rates, the ECB finally broke through the 1 percent floor with a cut of 25 basis points in July 2012. Further cuts of the same size would follow in May and November 2013, bringing the ECB's main refinancing rate to 0.25 percent (where the Fed's rate had already remained for precisely 5 years). Throughout 2014, the ECB would then lower the rate even further than the Fed or BoE had ever gone: first to 0.15, then to 0.05 percent – and, rather symbolically, to 0.00 percent in early 2016.

This closing in on the zero lower bound was matched with two other policies: a new communication policy and the introduction of negative interest rates for the ECB's deposit facility. Forward Guidance implied that if rates could not go any lower *now*, the ECB could still promise low rates for *tomorrow*. This follows the rationale that actors' expectations of future interest rates affect the choices they make today, including the decisions on employment, production, and price-setting that monetary policy typically seeks to influence (ECB 2014). In the context of monetary stimulus, the theo-

ry states that announcing rates to be ‘lower for longer’ raises inflation expectations and thereby lowers real interest rates (den Haan 2013: 9-15). The adoption of Forward Guidance then is perhaps the most obvious recognition of Woodford’s dictum that monetary policy works mainly through expectations (see chapter 4). Since the ECB followed in the footsteps of many other central banks,<sup>107</sup> and the policy came at essentially zero cost, adopting forward guidance was perhaps the ECB’s least controversial change.

The opposite could be said for its negative interest rate policy, or NIRP. From June 2014 onwards banks were charged a small fee if they drew on ECB liquidity simply to park it in their accounts with the central bank – instead of increasing lending. It goes without saying that this didn’t make the banks happy. While Draghi presented the policy coolly as additional support for lending to the real economy, opponents saw nothing less than “the end of capitalism” (according to a headline of the German newspaper *Die Welt*, see Straubhaar 2014). Georg Fahrenschon, President of the German Savings Banks Association, accused the ECB of a creeping “expropriation of savers” and was joined by several prominent figures, particularly in Germany (for an overview see Bindseil et al. 2015: 3-5). The ECB took savers’ concerns very seriously and responded by publishing explainers and even YouTube-Videos with subtitles in different languages.<sup>108</sup> Yet it did not back down from the policy. Instead, it went increasingly deeper into negative territory.

Finally, loans to banks: by the end of 2011, some big European banks which held big amounts of Greek bonds looked almost as troubled as four years before, when they had realized just how worthless the mortgage backed securities in their balance sheets were. Another credit crunch was looming. In December, the ECB thus revived the LTRO tool to provide banks with unlimited liquidity once more. It announced a new round of unlimited lending, this time with even longer maturities (of three years) and even looser collateral requirements. With the new 3-year LTROs, widely perceived as a success, the ECB managed a considerable expansion of its balance sheet (Darracq-Paries & De Santis 2013). On the surface, this program still kept the distinction between liquidity help for banks and monetary policy intact. And indeed, the banks parked most of the new liquidity in overnight deposits with the ECB. However, since banks also used some of that liquidity to purchase government bonds, authors like Willem Buiter and Ebrahim Rahbari (2012) speculated that this indirect support for government bonds may have been the real, albeit unofficial, purpose of the program. They therefore claimed that the new LTROs saw the ECB indirectly acting as a lender of last resort to governments (Buiter & Rahbari 2012; also see Wyplosz 2012). Following similar lines of reasoning, others have called LTRO ‘QE in disguise’ (Pisani-Ferry &

---

<sup>107</sup> The Fed started explicitly guiding expectations of future rates as early as 2008/09 and central banks in New Zealand or Norway even did so long before the financial crisis (den Haan 2013: 2).

<sup>108</sup> see <https://www.ecb.europa.eu/explainers/tell-me-more/html/why-negative-interest-rate.en.html>

Wolff 2012). However, the economic situation had to deteriorate further for ‘real QE’ to arrive.

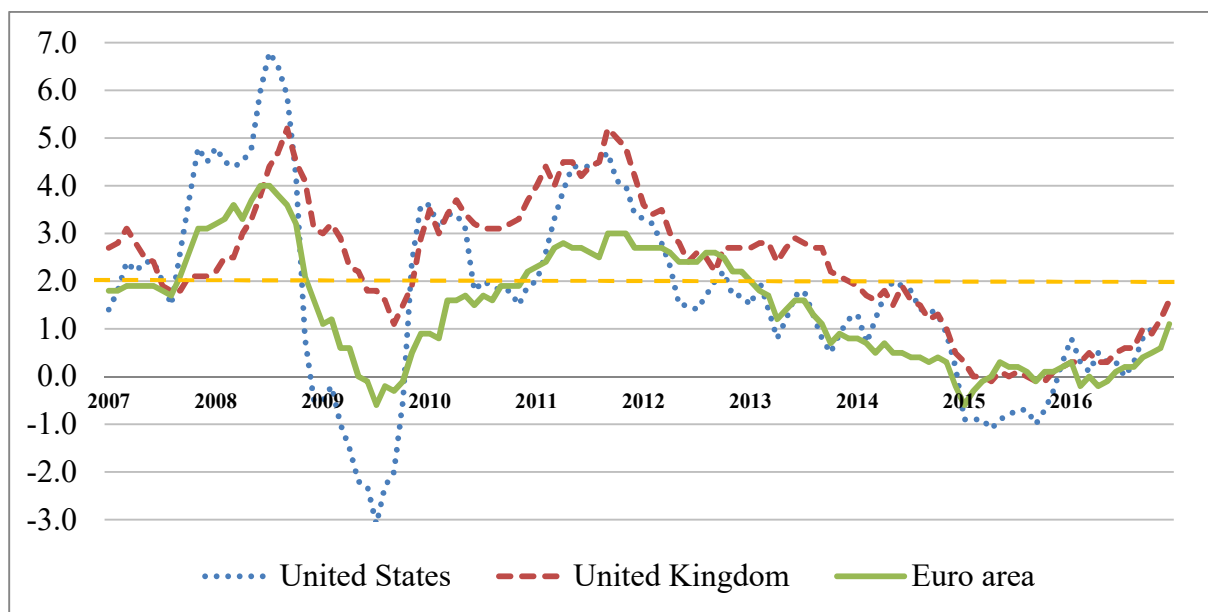
### ***The threat of deflation: real or imagined?***

The advent of negative rates demonstrated that the ECB was neither afraid of uncharted waters<sup>109</sup> nor of protest from German banks and savers. But it certainly took exceptional circumstances to make such a radical innovation possible. Beginning in mid-2012, inflation figures declined steadily and by 2014 deflation had replaced inflation as the central bank’s main concern – not only in Europe but worldwide (see Figure 6.7 below). Again, much of this fluctuation in prices can be explained with developments in commodity markets (and extremely low oil prices in particular). Other contributing factors such as demography, economic inequality, the impact of years of austerity and corresponding losses in demand, or a general decline of productivity were discussed controversially and some went so far as to predict a long era of secular stagnation (see Summers 2014; Gordon 2016).

Yet no matter what causes prices to fall, it is impossible for central bankers to ignore such developments. The fear of a deflationary spiral – when expectations of falling prices lead people to postpone investments and purchases, thereby producing further falls in prices and economic activity – thus started to dominate monetary policy debates from 2013 onwards. Arguably, deflations also bring about very different politics than inflations (Blyth 2007). As deflationary situations resemble a multi-person prisoner’s dilemma – individually rational behavior leads to a situation that is collectively disastrous – they require a state response (and thus empower central bankers as agents of the state). Furthermore, there is no trade-off between price stability and supporting growth any more, not even in the short run. In such a situation, monetary policy debates then focus on the question of how to fight deflation rather than on the direction of policy. Everything points towards accommodation!

---

<sup>109</sup> The policy had previously only been adopted by central banks of smaller economies such as Denmark, Sweden, and Switzerland.



**Fig. 6.7:** *HICP inflation rates in the Euro Area, the US and the UK, 2007-2016*

Against this backdrop it is noteworthy that the ECB preferred the uncharted waters of negative interest rates over the QE policies others had already implemented successfully. Expanding the money supply through bond purchases remained such a toxic subject in Europe that even negative rates appeared the lesser of two evils. Perhaps even more remarkable is the fact that the ECB's balance sheet was actually shrinking after Draghi's controversial '*whatever it takes*' remarks. As unlimited purchases under the OMT scheme remained only a theoretical possibility and banks increasingly repaid loans made in previous rounds of credit easing (LTROs), the total value of the ECB's balance sheet fell from around 270 percent of its pre-crisis level in July 2012 to a mere 177 percent in September 2014 (see Fig. 6.8 below). This is worth restating: in a year like 2013 marked by negative growth, record-breaking unemployment rates as well as inflation rates below the ECB's target, the central bank's balance sheet was shrinking rather than expanding.

Throughout 2014, however, inflation rates fell further and outright deflation became a real threat for the Eurozone. As all of the ECB's attempts to stimulate economic activity and keep inflation rates from falling further had failed, its shrinking balance sheet increasingly came under attack. In response, the ECB communicated the goal of moving the balance sheet back "towards the dimensions it had at the beginning of 2012" (Draghi 2014c). However, the Governing Council was still not ready to reach for the big bazooka (QE) to achieve this. Instead, it first tried another round of LTROs, but with a new twist. The 2014 version was Targeted (thus called TLTRO), in the sense that it made the provision of liquidity to banks conditional on how much they lent to firms and households. As banks had mostly stuffed propped up their balance sheets or used the liquidity to buy government bonds (thus the term 'QE in disguise'), this round was designed to finally stimulate lending (Merler 2014). A new plan to buy private assets – ironically, the notorious mortgage backed securities that had caused the finan-

cial crisis to escalate in 2008 – accompanied the TLTROs. Yet both moves proved not to be enough.

### ***The QE design challenge: boosting animal spirits while containing moral hazard***

As 2014 came to a close, the ECB had tried almost everything to push up prices and growth. Yet inflation kept falling. In this situation, QE was the only option left. As in the controversial OMT matter, Mario Draghi paved the way by foreshadowing the policy turn in a speech. ‘Whatever it takes’ became ‘what we must’. On 21 November 2014, he told an audience of bankers in Frankfurt that “We will do what we must to raise inflation and inflation expectations as fast as possible”, emphasizing that the ECB stood ready to alter “the size, pace and composition of our purchases” (Draghi 2014d). Most commentators agreed that Eurozone QE was indeed a necessity, but they remained unsure whether Draghi would be able to overcome German opposition. In anticipation of the final battle over QE, Governing Council politics started heating up to levels not seen before. In the words of the Commerzbank’s chief economist Jörg Krämer, a prominent ECB watcher and Shadow Council member: “There’s an enormous conflict within the Governing Council on what the ECB should do [...] Clearly, it’s Draghi against Weidmann once again. In the end, Draghi will get his way and we will see quantitative easing next year.”<sup>110</sup>

He was right. Weidmann had repeatedly made his opposition clear in the media, suggesting that there were no significant risks of a deflation spiral in the euro zone and being an independent central bank focused on price stability required “not falling into the trap of ‘This time is different.’” (Wall Street Journal, 7 Oct 2014). This left Draghi with a clear choice: to move ahead without the consent of some members of the Governing Council or wait for unanimity that was unlikely to ever arrive. In the press conference of its December 2014 meeting, Draghi made his preference clear: “*You asked whether we need to have unanimity to proceed on QE, or can we have a majority? I think we don’t need to have unanimity!*” (Draghi 2014e)

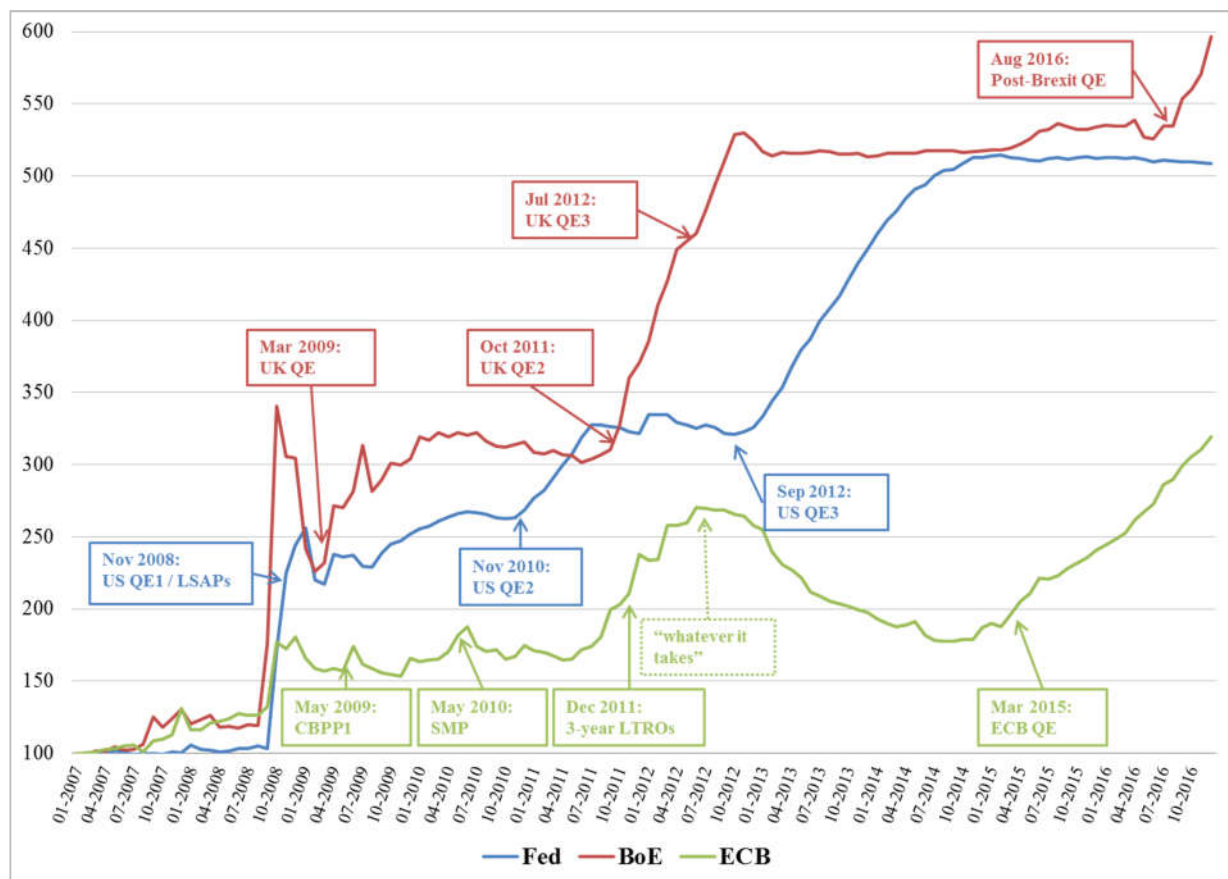
When energy prices fell further at the beginning of 2015, this added to deflation fears and made Eurozone QE a near certainty in the eyes of the markets – even before the program was officially announced on January 22nd. Strategists of BNP Paribas, for instance, wrote in early January: “Amid mounting evidence that the measures taken by the ECB to date have not yielded the desired results, quantitative easing, in the shape of outright buying of government bonds by the ECB, is looking more and more like a done deal.”<sup>111</sup> QE appeared inevitable, but the program’s design was a matter of tough negotiations. In the end, the ECB’s QE program turned out to differ from other policies in important ways: while the ECB bought only very limited amounts of bonds under the SMP and has yet to spend a single euro under the OMT program, QE finally

---

<sup>110</sup> “ECB Clash Resumes as Draghi Spars With Weidmann on Stimulus”, *Bloomberg*, 12 Oct 2014.

<sup>111</sup> “Stocks Close Sharply Higher on Prospects of ECB Stimulus”, *Wall Street Journal*, 8 Jan 2015.

saw the ECB boosting the money supply through unsterilized purchases of government bonds on a large scale. The program also differed from all previous policies in that it was explicitly designed to raise inflation and economic activity – and not to repair the normal transmission mechanism. With monthly purchases of €60 billion, it was also bigger than markets had expected. It was the ‘big bazooka’!



**Fig. 6.8:** Value of Assets: ECB, Fed and BoE, 2007-2016 (1 Jan 2007=100)

However, QE could not arrive without concessions to the Bundesbank. Since the bond purchases were to be carried out by the national central banks (NCBs) rather than the ECB itself, the Bundesbank had demanded that NCBs only purchase their own government's debt. Under the ECB's usual risk-sharing arrangements national central banks share losses in proportion to the capital key (see Table 3.1) – meaning that the Bundesbank would have had to take on roughly 25 percent of any losses in cases of a default or debt restructuring (as in Greece). Driven by concerns about moral hazard and potential losses for German taxpayers, the Bundesbank succeeded in avoiding the ordinary risk-sharing scheme for 80 percent of the overall purchases to be made. Risk-sharing in line with the capital key would only apply to the remaining 20 percent of purchases. As this established the principles of national liability and responsibility for most bond purchases, there were clearly distinguishable ordoliberal fingerprints on the ECB's QE package.

The program thus created a precedent for the ECB that some argued would both limit its effectiveness and risked creating further divisions among member states. *The Econ-*

omist (2015a) therefore called it QE “on German terms”. Reflecting on the program’s limitations posed by limited risk-sharing, longtime ECB watcher David Marsh (2015) concluded: “*The Bundesbank’s overt veto power exposes the limits of Draghi’s celebrated yet never-tested July 2012 declaration that the ECB would ‘do whatever it takes’ to shore up the single currency.*” Draghi’s own statements suggest, however, that he regarded the limited risk-sharing scheme as rather irrelevant and thus a price worth paying to prevent German economists running amok (and also allowing the Bundesbank to save some face in front of the German public). What arguably mattered much more to him was the size of the program, which was bigger than expected. This suggests that the ECB took animal spirits very seriously, hoping that a surprise on the upside would lead to correspondingly strong announcement effects.

QE did have beneficial effects on credit conditions, particularly in credit-starved countries such as Italy. However, it did not lift inflation back to the ECB’s target of ‘below, but close to, 2 percent’ within the following year. Consequently, the ECB further increased monetary accommodation at a number of occasions: it pushed the rate for its deposit facility further into negative territory, extended the duration of the QE program and, in March 2016, also increased its size from €60bn to €80bn per month. Finally, it also launched another of liquidity operations for banks which rewarded increased lending (TLTRO2). Needless to say, none of these further steps to provide monetary accommodation were uncontroversial and the old dividing lines persisted.

By the beginning of 2017, however, there seemed to be new light at the end of the tunnel. The ECB reached its inflation target for the first time in over four years and the economic recovery of the Eurozone appeared surprisingly resilient in a time of serious political risks. All this led Draghi to declare victory against the threat of deflation in the ECB’s press conference of March 2017, when he stated that “there is no longer that sense of urgency in taking further actions” (Draghi 2017). As a consequence, the European debates finally shifted toward the question of when to end the era of unconventional monetary policy and raise rates – again years after such discussions began in the US or the UK.

### ***Meanwhile in America: a final boost and the arduous return to normal***

The experience of the Fed and the BoE from 2012-16 differed significantly from the European situation. Both left interest rates at their record lows and delivered another large stimulus through QE in 2012 which boosted their balance sheets to new record highs. By mid-2014, both central banks’ assets amounted to more than 500 percent of what they had been before the crisis. At that point the ECB’s balance sheet was down to just 180 percent of its 2007 level (see Figure 6.8 above). Importantly, these third rounds of QE came long before deflation and secular stagnation became the talk of the town. What is more, they came at a time when both the US and the UK experienced a recovery, albeit a modest one: unemployment numbers started to decline slowly from

their post-crisis highs and both economies were experiencing some sort of growth (2.3% in the US; 1.2% in the UK) in 2012, while the Eurozone economy was shrinking again. Thus, the divide between European and Anglo-Saxon monetary policy even intensified throughout 2012 and 2013, especially in terms of their balance sheet policies. While both the Fed and the BoE oversaw economies in much better shape, they still did a lot more to help the recovery.

Again, their willingness to pull more rabbits out of the hat did not go without criticism. This goes particularly for the Fed, which made its QE-3 open-ended in nature (thus the program's nickname: 'QE-Infinity'). Its focus on bringing unemployment down at almost any cost, one observer suggested, could be called 'the reverse Volcker moment' (El-Erian 2012); while Paul Volcker had conquered inflation at the cost of soaring unemployment in the 1980s, the Fed now seemed to reverse this ranking of objectives.<sup>112</sup> Interestingly, El-Erian remarks that this spectacular reversal may have been helped by a particular theory of inflation: "many feel it is virtually impossible for the US to experience high inflation in the context of such large spare capacity" (ibid). High unemployment equals no upward pressure on wages equals no inflation risks, may have been the thinking behind the Fed's QE-Infinity, according to El-Erian.

Following their respective third QE-programs the recovery gained traction and unemployment came down in both the US and the UK. The recovery allowed the Fed and the BoE to finally end their asset purchases and turn towards 'normalization': raising rates again. Reflecting on their experiences, the UK newspaper *Telegraph* (2014) ran the headline "QE is over" in October 2014 – half a year before the ECB would buy the first bonds under its own QE-scheme. And while the unwinding of their extraordinary measures and the return to higher interest rates turned out to be a very tricky task, these were problems ECB policymakers would arguably have loved to have in 2014.

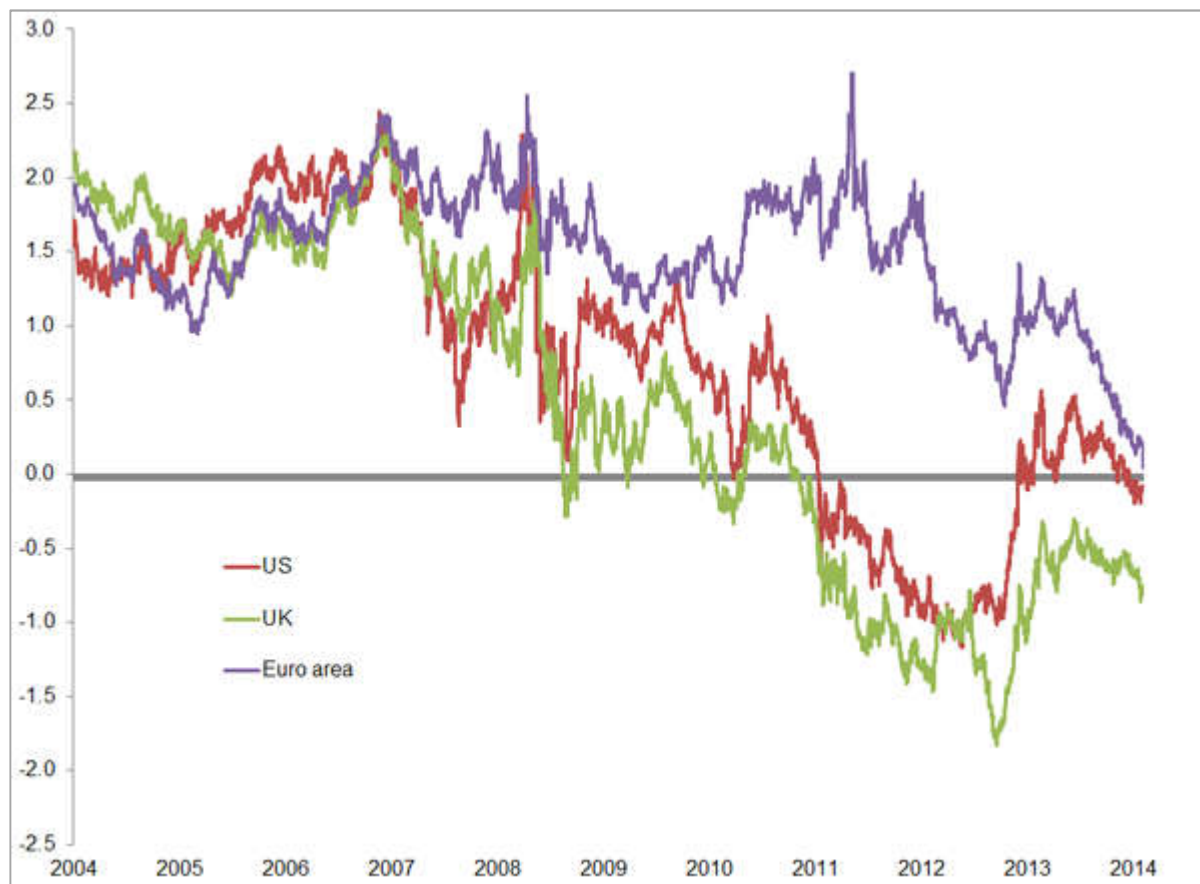
In the meantime, political events such as the UK's Brexit vote or political attacks on the Fed by the new US Presidency have given these institutions new headaches which go beyond the scope of this study. Yet, for the period under consideration, both central banks have continuously acted faster and provided their economies with significantly more monetary accommodation than the ECB did. This goes for unconventional policies in particular. Preliminary evidence suggests that these policies worked well by lowering real interest rates (see Figure 6.9) and thus alleviating some the pain associated with the Great Recession. In comparison, the ECB long failed to support the economy by lowering real interest rates (nominal interest rates minus inflation). In fact, throughout 2010 and 2011 the policy stance even tightened, which contributed to a double dip recession in the Eurozone. In comparison, the ECB moved extremely

---

<sup>112</sup> Behind the Fed's focus on unemployment, El-Erian admits, was the legitimate concern that persisting joblessness among the young and long-term unemployed would create a lost generation – and thus embed cyclical unemployment in the structure of the economy (El-Erian 2012).



slowly and cautiously, and only managed to bring long-term real interest rates down after Mario Draghi took over from Jean-Claude Trichet.



**Fig. 6.9:** 10-year real interest rates for the Euro Area, the US and the UK, 2004-2014 (Source: Ubide 2014: 198)

### ***Shadow Council: urging the ECB to move faster***

The ECB's Shadow Council (SC) consistently recommended that the ECB follow the example of its Anglo-Saxon counterparts, much earlier than it did.<sup>113</sup> With near-unanimity, it urged the ECB to cut rates to zero in early 2012 and to accompany rate cuts with further unconventional measures – even though there was often much less agreement on the unconventional tool of choice (e.g. see SC, 5.2.2013). When the SC recommended the adoption of new tools, however, the ECB would often follow suit, albeit with a significant delay. Examples include its adoption of Forward Guidance, negative deposit rates, the provision of unlimited liquidity for up to five years including incentives for banks to lend to the real economy (following the UK example of 'funding for lending'), and, of course, QE (see SC 2.7.2012; SC 29.4.2013; SC 4.6.2013).

<sup>113</sup> As the ECB Shadow Council changed its meeting schedule from monthly to quarterly in 2014 (while the ECB changed from 12 to 8 meetings a year), the resulting gaps in recommendations do not allow for a further continuation of the figures 4.3 and 4.5. However, as the ECB narrowed in on the zero lower bound during the period of 2012-16, the focus of the SC also changed towards discussions of the desirability and effectiveness of unconventional tools.

In line with the overall assessment of the SC as hawkish and more activist than the ECB when it comes to conventional interest rates policy (see Neuenkirch & Siklos 2015), the shadow committee also consistently urged the ECB to do more in terms of unconventional policy. While the ECB would in the end adopt almost all the measures recommended by the SC, it would typically do so on a smaller scale and, crucially, only much later. This time lag is of particular relevance because timing matters enormously for the impact of monetary policies on the economy. In other words: there is only so much central bankers can do to make up for lost time.

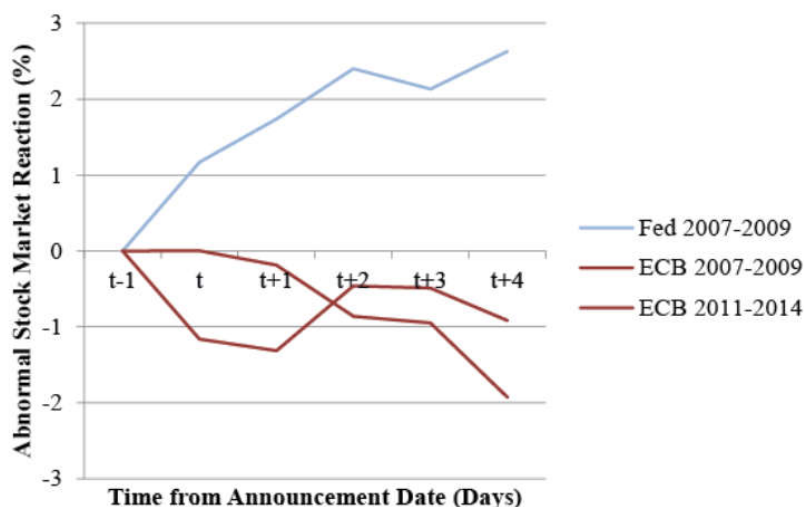
#### **6.4 Not just what, but when: sticky ideas and the importance of timing**

By 2016 the ECB had clearly become the central bank with the most accommodative policies. While its peers slowly moved toward exiting their extraordinary measures, the ECB was doubling down. As FT commentator Gavyn Davies (2015) put it, “showing all the zeal of a late convert, the Governing Council is now playing catch up, with a vengeance.” And after some time it saw its efforts bear fruit, in particular when credit conditions improved for the crisis-stricken countries of the periphery. Proponents even go so far as to claim that the ECB’s QE program “worked wonders: the fact that investors now pay Rome to borrow from them suggests that if the Eurozone had done QE at the same time as the Fed and the Bank of England, the sovereign debt crisis need never have happened” (Sandbu 2015b).

Instead of asking why the ECB did so little it may thus be more appropriate to ask why it took so long to adopt the aggressive measures of its peers. Yet too late can mean too little, because timing is crucial for the effectiveness of monetary policies. Since the impact of policies depends on how they are transmitted through the financial system, changing market conditions can either hamper or facilitate the developments central bankers aim for. In other words: what works today will not necessarily work tomorrow!

Regarding the impact of interest rate decisions, for instance, Kang et al. (2015) provide an estimate of how the rate decisions of the Fed and the ECB after 2007 influenced market conditions. They show that the proactive and radical Fed moves in 2007 and 2008 had stimulating effects on stock markets (see Figure 6.10). On the contrary, “for the slower-moving ECB, the market reaction was, on average, negative throughout” (Kang et al. 2015: 6). The ECB appeared ‘behind the curve’ as its rate cuts were perceived merely as reactions to deteriorating conditions rather than strong signals of monetary loosening. Accordingly they failed to affect financial conditions in the way the Fed did – both during the early loosening cycle after Lehman (2007-09) and its continuation after the 2011 rate hikes. In addition to coming very late, the ECB’s rate decisions were also accompanied by musings about risks of higher inflation (implying a certain probability that the central bank might undo these cuts in the near future).

Sending such mixed signals, the ECB's late cuts did little to support the economic recovery (ibid: 4-5).



**Fig. 6.10:** Stock market reactions to interest rate reductions by ECB and Fed, 2007-14 (Source: Kang et al. 2014: 6)

A similar argument has been made for the impact of Eurozone QE. As QE came to Europe with a delay of almost seven years, leading figures like Larry Summers expected it to be less successful than the US programs were. The main reason for the differential impact is that QE is supposed to work by lowering long-term interest rates – as it successfully did when the Fed first adopted the policy in 2008. In 2015, however, these rates were already very low in Europe and the impact of QE through this channel therefore limited. Furthermore, Summers held that QE in the US worked best when it came as a surprise instead of being widely anticipated (as it was in the case of Eurozone QE). This mirrors the insight that QE policies tend to influence market conditions more at announcement than when they are actually implemented. In sum, “there is every reason to expect QE will be less impactful in Europe”,<sup>114</sup> partly because it came too late.

### ***What took them so long?***

Contrasting the different stages of ECB policies after the crisis, I agree with the characterization of Gavyn Davies that the ECB under Mario Draghi is indeed ‘playing catch up with a vengeance’. Clearly, the two policies which arguably changed the ECB forever (OMT and QE) arrived with Draghi. Both programs also embody sharply different beliefs about how the economy works. In particular, they build upon the importance of animal spirits. This is perhaps most obvious in the case of OMT and the Draghi’s fabled ‘whatever it takes’, which economists like Nobel Laureate Joseph Stiglitz has called a ‘confidence trick’. With only three words – and without spending a single Euro – Draghi succeeded in spectacularly reversing market sentiment, which

<sup>114</sup> “Larry Summers warns QE is no panacea for Europe”, *Financial Times*, 22 Jan 2015.

in the eyes of many saved the Euro. A similar focus on improving animal spirits to achieve monetary policy goals can be seen in the ECB's success with exceeding market expectations regarding the size of its QE program. Understanding financial markets as driven by human sentiment rather than as an aggregation of perfectly rational expectations, Draghi pushed for a bigger than expected stimulus to send a strong signal that the ECB would indeed deliver whatever it took.

Beyond these pivotal decisions, Draghi's speeches reveal that his core economic beliefs are influenced by the New Keynesian approach which dominates Anglo-Saxon economics in academia and central banking practice – while the arguments by ECB hawks like Jens Weidmann and Yves Mersch appear much more influenced by the Austrian school of economics and its German branch, Ordoliberalism (see Davies 2014c). Not only does Draghi attach more importance to the size of the central bank's balance sheet and developments in core rather than headline inflation; the ECB President also appeared more focused on aggregate demand and unemployment problems than any of his predecessors at the ECB. Arguably he expressed this shift most clearly in his 2014 Jackson Hole speech (for which he reportedly sought advice from the Fed's Vice chair Stanley Fisher, who had been his supervisor at MIT in the 1970s):

*“On the demand side, monetary policy **can and should** play a central role, which currently means an accommodative monetary policy for an extended period of time. [...] Demand side policies are not only justified by the significant cyclical component in unemployment. They are also relevant because, given prevailing uncertainty, they help insure against the risk that a weak economy is contributing to hysteresis effects. Indeed, while in normal conditions uncertainty would imply a higher degree of caution for fear of overshooting, at present the situation is different. The risks of 'doing too little'—i.e. that cyclical unemployment becomes structural—outweigh those of 'doing too much'—that is, excessive upward wage and price pressures.”* (Draghi 2014f, my emphasis)

In this view, monetary policy “*can and should*” help to provide more demand in order to prevent temporary and cyclical unemployment after the crisis from turning into a structural problem (called hysteresis effect). In other words: monetary policy *can* have a lasting effect on employment growth and *should* therefore be used more actively. What Draghi considered possible shaped what he deemed desirable (Steinmo 2003).

It is hard to overstate the ideational shift at the ECB's top that occurred when Draghi took over from Trichet. Yet this did not turn the ECB's policies around immediately. It is important to note that monetary policy actually tightened during Draghi's first year at the helm. For much of 2012 the ECB's balance sheet was shrinking and real interest rates were rising across the Eurozone. This underlines that it took Draghi a long time to convince his fellow policymakers in the Governing Council. After all, the ECB

makes monetary policy in a committee setting, in which the President is only the first among equals. He oversees the preparation of decisions and may enjoy some agenda-setting power as chair of committee meetings (see Chapter 3). Yet his vote counts as much as anybody else's on the Governing Council. Changing the ECB's stance thus requires patiently forging a consensus through careful argument and central bank diplomacy.

Economic ideas are sticky, especially when they are as deeply embedded institutionally as in the case of monetary conservatism at the European Central Bank. Proponents of a more activist monetary policy stance within the Eurosystem had to overcome the skepticism, and sometimes open opposition, of their colleagues trained in the Bundesbank tradition. As this prevented the ECB from tearing up its rulebook and embark on monetary experiments in uncharted waters as quickly as other central banks did, European monetary policy remained behind the curve for most of the post-crisis years. This has not only proven consequential for Europe's economic and political landscape, where long years of recession have turned cyclical unemployment into structural problems – with all the fragmentation and radicalization of politics this entailed. As shown above, the long wait has also limited the contribution the ECB's monetary policies could make in stabilizing the Eurozone economy over the past decade. Yet, as green shoots are beginning to appear in the Eurozone economy in early 2017, optimists have reason to remain hopeful that the ECB's conversion came late, but not too late.



## 7. HOW THE WORLD WORKS: CLASHING IDEAS AND THEIR POLITICAL SIGNIFICANCE

*“So this is a period of uncertainty and so you have good people sitting in that room, smart people, trying to figure it out. And it shouldn’t be surprising at all that all of these smart people have different ways of thinking about this.”*

**Charles Plosser**, 30 January 2015

Central bankers have different ideas about how the (economic) world works. This alone might have surprised many before the financial crisis hit, given that central bankers were usually thought of as a global family, or even a clan (Marcussen 2009). After gaining their Economics PhDs at elite universities and perhaps some additional experience in the financial sector, these timid technocrats would typically cultivate their highly specialized knowledge through many exchanges in tightly-knit networks. Through these interactions, they established a broad consensus about the technicalities of monetary policymaking – something ordinary mortals had no way (or wish) of comprehending – and consequently governments around the globe granted them astonishing levels of autonomy to manage their currencies.

In the challenging ‘*new normal*’ of monetary policy after the crisis, however, central bankers regularly (and publicly) revealed that they can and do disagree. Quite fundamental differences in thinking have resurfaced. This dissertation thus argues that these different ways of thinking about the economy influence the policy choices central bankers make – in particular during crises. Facing situations they had never seen before, their economic beliefs provided central bankers with guidance when they could no longer rely on past experience. And given their large degree of autonomy as well as their ever-increasing list of responsibilities after the crisis, this had far-reaching implications for economic policy.

Recognizing these differences in economic thinking helps us to understand the ECB’s lagged response to the Great Recession as well as the level of conflict and the dividing lines within the Eurosystem. My survey data suggests that the ECB was caught in the middle between an orthodox core and a more revisionist periphery. More specifically, economists in Northern European central banks differ from their colleagues in Southern Europe (as well as Anglo-American institutions). Northern European economists are both more skeptical about what contribution monetary policy can make to stabilize the economy and more concerned about inflationary risks associated with unconventional policies. They are less optimistic about what they can do and, at the same time, more concerned about trying to do too much. And as beliefs about what is possible “critically shape what is desirable” (Steinmo 2003: 209), Northern European central bankers are much more conservative and more reluctant to experiment than central bankers elsewhere.

Trying to find some middle ground between the divergent beliefs and preferences of its member institutions, the ECB remained closer to previous orthodoxy in its response to the Great Recession than the Federal Reserve or the Bank of England, which quickly tore up their rulebooks. Inside the Eurosystem, proponents of activist monetary policy (and balance sheet policies in particular) had to overcome enormous resistance from within before they could follow the examples set by other central banks. This is why ECB monetary policy remained relatively conservative for a very long time. This is why it first did too little to support the economy, and only changed its orthodox stance very late.

While much of the public and academic debates focused on battles between the ECB and the Bundesbank – or Draghi vs. Weidmann – my survey data suggests a more nuanced picture. Since Germany does not occupy a veto position in ECB policymaking (as it arguably does in other EU policymaking institutions) German central bankers have to *convince* their fellow policymakers in the Eurosystem to make a difference. Otherwise they are simply outvoted in the Governing Council, as they repeatedly have been throughout the crisis. This is why I argue that the ECB is constrained by German-style thinking rather than by German interests. German power in the ECB, to the extent that it exists, is primarily rooted in Lukes' third face of power, namely the power to shape perceptions, cognitions and preferences (Lukes 2004: 28).

Put simply, *monetary orthodoxy prevailed, not 'Germany'*. This does not only mean that conservative economic ideas are endorsed by many German central bankers and politicians; it means that these ideas are shared by other people, too. And this includes, most importantly, central bankers beyond German borders. My survey data suggests that central bank economists from Northern European institutions both within the Eurosystem (e.g. Austria, Belgium, Finland, Luxemburg) and beyond (e.g. Sweden, Switzerland) hold similar economic beliefs as their Bundesbank colleagues. Since a single country cannot veto policies in a committee of 'one man, one vote', it is essential for Bundesbank officials to find like-minded policymakers in other institutions. And because they often do, they successfully kept the ECB from pursuing more expansionary policies before 2014.

This underscores the argument made by Brunnermeier et al. (2016) that the battle for the Euro indeed is a battle of ideas. Rather than focusing on one particular macroeconomic worldview, these authors wisely speak of northern and southern *theories* (in plural) and forcefully argue that economic traditions are not written in stone. In line with this, I observe that big labels such as 'Keynesianism' or 'Ordoliberalism' do not take us very far in understanding concrete monetary policy outcomes. Given the prominence of such economic paradigms in the literature, this point requires qualification. It is true that many of the 'orthodox' positions identified in this thesis could be labelled as 'Ordoliberal'. This goes for the skepticism about monetary activism to stabilize the



economy, worries about inflationary risks of money growth at the zero lower bound, and, particularly, concerns about moral hazard. Yet it is also true that Ordoliberalism is compatible with a lot of standard economic analysis. Consequently, economists in my survey who identified with Ordoliberalism also identified with Keynesianism or Neo-classical Economics. More generally, rather than representing different ends of a spectrum, adherents of different paradigms appeared surprisingly close regarding several survey questions on their more specific economic beliefs. They did differ, but in degree rather than in kind.

This is why I argue that the influence of ideas on monetary policy is best understood in terms of the concrete beliefs of ‘*what works*’ rather than in terms of paradigms. I thus operationalize economic ideas as causal beliefs, implying probabilistic arguments that connect causes and effects in the economy. In terms of the distinction made by typologies in Campbell (1998) or Schmidt (2008), my study focuses on the cognitive rather than the normative dimension of ideas. Regarding the level of generality, this emphasizes the policy dimension of ideas (ideas supporting particular policy solutions) rather than the broader dimensions of programs/paradigms or even philosophies/worldviews (see Schmidt 2008: 306-9). Such cognitive ideas offer clues as to what effects a particular policy is likely to have, which enables policymakers to reduce uncertainty in the decision-making process and thus makes consensus-building possible.

When agents engage in policy debates, however, cognitive ideas are often linked to normative ones. This is because ideas are most persuasive when conveyed with moral force: “Knowing how things work best is more compelling when fused to a notion of how things should be” (Seabrooke & Wigan 2016: 357). While my analysis focuses on the role of cognitive ideas in decision-making processes among elites (coordinative discourse), we can observe the mix of the cognitive and normative in central bankers’ communicative discourses with the public.<sup>115</sup> Mario Draghi delivered one illustrative example in 2016:

*“In the course of the last few years some commentators were cautioning that our policies would cause runaway inflation. They didn’t. Others warned that we were exposing ourselves to heavy losses from expanding our balance sheet and accepting lower-quality collateral. In fact we haven’t had a single loss. Then those same authorities claimed that our policies were illegal. The European Court of Justice disagreed. Now they warn us about the side-effects and risks of what we’re doing.*

*But what I never hear them discuss is **the risks of doing nothing**. What would that mean for our price stability mandate, and therefore for growth and jobs, and eventually, for the future of our monetary union? Those are, to*

---

<sup>115</sup> For the distinction between coordinative and communicative discourse, see Schmidt (2008).

*my mind, the real risks we have to be concerned about. And the path our monetary policy is taking is, in that sense, the path of risk reduction.”*  
(Draghi 2016b, his emphasis)

Here Draghi clearly linked his belief that monetary policy can make a contribution to stabilize the economy to the moral obligation to alleviate economic hardship and preserve the Euro. Speaking at the New Year’s Reception of the Deutsche Börse Group in Eschborn – the heartland of monetary orthodoxy – Draghi attempted to frame expansionary monetary policy in a legitimate context by turning to moral arguments.

The orthodox camp followed similar discursive strategies. A common thread connecting the speeches of German central bankers throughout the crisis is the concern that the ECB’s expansionary policies might let underserving spendthrift governments off the hook. While this argument is usually phrased as a forward-looking concern about the moral hazard implications of such a policy, there is a distinct moralistic undertone to it. In its starkest form, Ordoliberal criticism holds that the ECB prevents financial markets from giving profligate governments the punishment they deserve. Against this backdrop, the *Economist* (2015b) quotes the former Italian Prime Minister Mario Monti as claiming that “in Germany economics is seen as a branch of moral philosophy”. This link to normative aspects suggests that European central bankers – despite their independence – are well aware of the importance of public support for their ideas and policies. They realize that their interpretations of how the economy works and the policy implications that follow from that will be particularly effective when shared by a broader population (Widmaier et al. 2007: 749). Thus, ideas are most powerful when linked to moral authority (Seabrooke & Wigan 2016).

### ***Whose ideas matter, why, and how?***

Yet it is one thing to claim that *ideas matter* and quite another to specify why they matter, how they matter – and whose ideas they are in the first place. First, why did ideas matter for ECB policymaking during the crisis? Here, my argument rests on the well-established insight that ideas affect real-world outcomes most directly when uncertainty is high (see Blyth 2002; 2006; 2010; Best 2008).<sup>116</sup> It is widely recognized that economic crises shake up existing orders and make far-reaching changes possible. Materialist analyses tend to treat crises as exogenous shocks which alter the conditions for strategic interaction. I follow the more constructivist reading proposed by Widmaier et al. (2007), which holds that even exogenous shocks must be endogenously interpreted. In fact, unsettling crisis times alter ‘material’ incentives precisely because they are interpreted differently by agents (ibid: 749). Mark Blyth makes this case most forcefully: “Ideas [...] are important because without having ideas as to how the world is put together, it would be cognitively impossible for agents to act in that world in any

---

<sup>116</sup> Importantly, this does not imply that ideas do not matter in normal times. Rather, it means that ideas matter *in different ways* during periods of relative stability (see Blyth 2002: 27-35).

meaningful sense, particularly in situations of Knightian uncertainty that occur during the periodic breakdown of capitalist economies (Blyth 2002: 32).

Importantly, the concept of Knightian uncertainty is more than just an academic concept, imposed ex-post by the social scientist. Central bankers themselves frequently make reference to it. In late 2008, ECB President Trichet repeatedly stated that “a useful – albeit not the only – way to characterise recent events is to employ the concept of non-measurable risk, or ‘Knightian’ uncertainty” (Trichet 2008c: 169). In fact, central bankers as macroeconomists have devoted much time (and ink) to the role of uncertainty in central banking more generally. Even in times considered as ‘normal’, uncertainty influences monetary policymaking, because central bankers’ knowledge about the monetary transmission mechanism is necessarily limited. How exactly fluctuations in the money supply influence the behavior of economic agents – and thereby prices – is not only unknowable; it also changes over time. Against this backdrop, Alan Greenspan stressed that “uncertainty is not just an important feature of the monetary policy landscape; it is the defining characteristic of that landscape” (Greenspan 2003). This is why “in monetary matters above all, *credere* (belief) matters” (Blyth 2015: 143). And this may be the main reason why so many political science analyses of central banking emphasize the role of ideas (e.g. McNamara 1998; Verdun 1999; Marcussen 2000; Bell 2004).

### ***Maastricht does not come with an instruction sheet***

Ideas usually do not float around freely and make a difference by themselves, independent of those who hold them. Ideas matter for policy if they influence the mindset of individuals in position of authority. To be sure, the more an idea convincingly speaks to the (perceived) problems of its time, the more likely it is to influence those with the power to make collectively binding decisions. Therefore the power of ideas is certainly related to their content. Yet, unless they are endorsed (or at least accepted) by policymakers, ideas are obviously unlikely to matter for the policy choices they make. This line of reasoning places interpretive agents – here: central bankers trying to make sense of a world on fire – at the center of analysis (similarly: Bell 2011).

Yet this focus on policymakers is only justified if they enjoy the *freedom to act* on their beliefs. Conversely, if we regard policymakers as constrained by powerful politicians, societal interests, with their hands tied by very specific rules about what they ought to do, then it arguably makes little difference who these people are and what they think. Curiously, this is how the role of central bankers is often understood. Delegation theory predicts that governments grant policymakers autonomy only if they commit to binding rules about how to use their powers. A narrow mandate is the flip-side of central bank independence. In the most extreme form, then, central bankers are reducible to a specific reaction function, a policy rule that mechanically adjust the money supply in response to incoming economic data. The human factor is zero. Or, in

the words of Paul Volcker (2007): “Without art, without judgment and discretion, there would be no need for central bankers at all.”

In reality, central bankers have not been replaced by pre-defined policy rules, but enjoy discretionary powers to varying degrees. The ECB holds a special status in this regard as well. As the world’s only supranational central bank – a central bank without a state – the ECB is governed not by national law but by an international treaty. As this treaty is practically impossible to modify, the ECB’s enormous independence is basically set in stone. This is why the ECB is routinely described as world’s most independent central bank. Much less attention is given to the fact that, due to its treaty-based mandate, *the ECB is also the least constrained central bank in the world*. Obviously, this runs counter to the most basic predictions of delegation theory, according to which the more independence governments give to an agency, the more they will want to make sure it doesn’t abuse its powers – and therefore limit them strictly.

As the ECB’s mandate is enshrined in international law, it is necessarily an incomplete contract. Because it has to stand the test of time international law needs to be couched in much more general terms than national law. It cannot be amended to reflect changing conditions. It requires flexibility. Contrary to all its rhetoric about following a clear and strictly defined mission, then, the ECB’s treaty-based mandate contains a lot of flexibility. And the Euro’s founding fathers such as Otmar Issing were well aware of this peculiarity of the ECB’s mandate:

*“The powers of the central bank, including its monetary policy instruments, are normally laid down quite clearly. [...] This is not so, however, in the case of the ECB. The Treaty contains relatively few provisions, which are, moreover, couched in very general terms.” (Issing 2008: 118-9)*

As the crisis has shown, these general terms of the Maastricht Treaty can be interpreted in very different ways. Consequently different central bankers – as well as different courts – have offered astonishingly diverse opinions about what the ECB’s mandate actually consists of. Their treaty-based mandate thus makes ECB policymakers practically untouchable and, at the same time, leaves them enormous leeway to interpret what they should do and how they should go about it. If conditions change, the ECB has the freedom to reinterpret its own mandate – and it has clearly done so during the crisis.

### ***Three channels of ideational change: persuasion, appointment, and leadership***

The act of re-interpreting Maastricht is consequential because, to state the obvious, doing so allows for policy change without treaty change. Two policies signal that a quite radical reinterpretation of the ECB’s mandate has taken place under Mario Draghi’s reign. First, ‘whatever it takes’ and the OMT created the basis for the ECB to

function as a lender of last resort (LOLR) to governments – a role previous ECB leaders tried hard to avoid. Second, the QE program of 2015 demonstrates a newfound concern about developments beyond consumer price inflation. Instead of being unconcerned with inflation rates close to zero, the new ECB management took the threat of deflation very seriously, and increasingly stressed the risks of doing nothing for “jobs and growth and, eventually, for the future of our monetary union” (Draghi 2016b). In other words, it showed concerns not only for price stability, but for supporting the general economic policies in the Union, too.

While much of my dissertation focuses on the absence of change at the ECB – namely its reluctance to reach for unconventional policies more quickly – its belated conversion demands an explanation, too. After all, few would doubt that the ECB in 2017 looks very different compared to ten years before – despite following exactly the same mandate. In the words of Alan Greenspan (2014), the ECB “has effectively thrown off all the Maastricht Treaty restrictions that bound the bank to the model of the Deutsche Bundesbank.” How did this happen?

An approach focused on interpretive agents – here: independent and largely unconstrained central bankers – points to two rather obvious ways in which ideational change may induce policy change: persuasion and appointment. Central bankers can either be convinced by new ideas or replaced by other central bankers with different views. My analysis of how ECB decisions are prepared (see chapter 3) leads to a third path for change: it suggests that the significance of economic ideas can change when informal policymaking procedures are altered. If certain groups of agents find themselves sidelined by new rules and routines of decision-making, the significance of the ideas they hold is reduced as well. All three channels of ideational change – *persuasion*, *appointment*, and *leadership* – certainly interact and may all be at play at the same time. Their relative importance varies, however. A brief reiteration of policymaking during the ECB’s first three presidencies illustrates the point.

During the Duisenberg era, monetary policymaking was practically sourced out to chief economist Otmar Issing for a number of reasons. First, he personalized the Bundesbank’s credibility, which the ECB was eager to borrow by signaling as much continuity as possible – institutionally as well as in matters of leading personnel. Second, most European central banks had previously shadowed the Bundesbank’s rate decisions and therefore little experience in making policy independently. Thus, they placed a lot of faith – and power – in Issing. Third, Issing led the most important departments for monetary policymaking (DG-Economics in particular). These units effectively held a monopoly over data and models of the Eurozone economy, which they were only developing at that time (see Cecchetti and Schoenholtz 2008: 13). Fourth, and perhaps most importantly, Issing possessed a high degree of professional authority due to “his outstanding professional and academic qualifications and *powers of persuasion*” (Ti-

etmeyer 2007: 63, my emphasis). He was not only a well-respected academic economist and seasoned policymaker, but also a particularly outspoken man of strong convictions who frequently sought intellectual debates with staff and fellow policymakers. Finally, the ECB's first chief economist was also unusually close to his staff and left behind a legacy that would last much longer than his term at the bank. He established close working relationship with all staff under his responsibility, providing them with direct feedback on their work and having regular informal interactions with them as well. As most of these staff economists were relatively inexperienced (Issing 2008: 72), they learned the craft of practical monetary policymaking in the ECB's early days under Issing's supervision. And as they rose through the ranks, so would Issing's intellectual legacy.

When Trichet took over from Duisenberg, he and other members of the Executive Board became more involved in monetary policy issues. For instance, Trichet established staff briefings for the entire Executive Board as a regular routine before Governing Council meetings. This had previously been a private affair between Issing and his team, who had merely provided other board members with written reports. Now, Issing's economists<sup>117</sup> were to report to the entire board, and Trichet reportedly "wanted to know everything". While this change in *leadership* first diminished Issing's autonomy to set the agenda, the regular interactions between staff economists and the Executive Board it brought about would also guarantee a lasting influence of Issing's ideas through his disciples. Furthermore, Trichet himself "began to be seen as more German than the Germans" (James 2012: 394), which is why this change in decision-making procedures did not provoke a change in the ECB's policy change. Another factor for continuity was the *appointment* of Jürgen Stark as Issing's replacement. Just like Issing, Stark had been the Bundesbank's chief economist before making the move to the ECB, and promised more of the same. While he did not have his predecessor's natural authority, he followed similar ideas and thus became the new face of ECB orthodoxy. When the extraordinary conditions of the crisis induced Trichet to take a more pragmatic turn, Stark consequently resigned in opposition.

However, Trichet's pragmatism pales in comparison to the changes Mario Draghi's presidency brought. While Trichet's SMP may have paved the way, the cornerstones of the ECB's late yet remarkable metamorphosis – OMT and QE – clearly arrived with Draghi. The ECB's new turn under Draghi points to decisive changes through all three channels of ideational change. In terms of *appointment*, Draghi himself clearly differed greatly from his predecessor. While Trichet was a long-time civil servant, Draghi was trained as an academic who gained his doctorate degree at the MIT and taught at several Italian universities before joining the Italian treasury. Other prominent new appointments, e.g. those of Peter Praet and Benoit Coeuré as Executive Board mem-

---

<sup>117</sup> While managers of units in DG-Economics were not the only ones to appear in these briefings, they were and remain by far the most important units in the preparation of monetary policy decisions.

bers or Frank Smets as Director General of DG-Economics, suggest a strengthened role for pragmatic and unorthodox central bankers.

Due to his academic credentials and strong ties to prominent US central bankers, Draghi arguably commanded great *persuasive powers* as well. While he was fiercely attacked at home for changing the ECB, he drew authority from the support he enjoyed within the international central banking community. Finally, Draghi adopted a sharply different *leadership* style which helped to further moderate the influence of orthodox ideas in ECB policymaking. Regarding his leadership within the Governing Council, Draghi appeared much less focused on consensus-building. While Trichet worked tirelessly to bring the Governing Council to a shared view, Draghi required only solid majorities. This arguably reduced the significance of extreme positions, such as the orthodox views often associated with German central bankers. In this respect, Briancon (2015) quotes a former Governing Council member as saying that Draghi's greatest accomplishment was that "he declared the ECB's independence from Germany." Regarding his leadership inside the ECB, Draghi also relied less on in-house expertise than his predecessors, drawing much more on advice from externals. He cut the time and attention given to staff briefings, which arguably curbed the influence of orthodox ideas held by staff economists within DG-Economics (see chapter 3.3).

A focus on interpretive agents surely invites speculative counterfactuals regarding what other potential ECB leaders might have done. For instance, it is hard to imagine the 'old ECB' under Trichet and Stark or Issing signing up to the ECB's current policies – not to speak of an ECB led by Axel Weber, who long seemed the Trichet's most likely successor (Economist 2011a). How former ECB officials publicly criticize current policies speaks volumes on this possibility (e.g. Issing 2011b; Stark 2014, 2015). Yet the strong focus on the ECB President in much of the media might overstate his powers. After all, the Governing Council contains 21 voting members, which is why no president can bring far-reaching changes about single-handedly. For instance, Weber withdrew his candidacy as Trichet's successor precisely because he realized that his orthodox ideas were not shared by the majority of his colleagues in the committee. Moreover, Draghi did not simply have it his way once he took office. During his first years, the ECB's monetary policy stance (as measured by real long-term interest rates) actually tightened. Proponents of more activist policies had to overcome strong resistance of orthodox central bankers within the Eurosystem first before the ECB's belated conversion could occur.

### ***The role of interpretive agents within institutional analysis***

Reflecting on the first 100 years of the Fed, the former president of the Federal Reserve Bank of Cleveland, Jerry L. Jordan, found them deeply influenced by central bankers' ideas: "For the past century, the economic theories of prominent personalities in the central bank's policymaking bodies have been the dominant factors giving us

the very mixed results we have witnessed.” (Jordan 2014: 213-4). In line with my approach, this characterizes the role of central bankers’ as “collective puzzlement on society’s behalf” (Heclo 1974: 375). The above shows that an approach that places interpretive agents at the heart of the analysis can help explain both change and stability in monetary policymaking. As policy ideas tend to be sticky, they shed light on periods of stability and processes of (too) slow adjustment. By drawing attention to processes of *persuasion*, the *appointment* of new policymakers with different ideas, or changed practices of decision-making under new *leadership*, an approach focused on policymakers’ ideas can cope with change as well.

Yet, ideas are certainly not all that matters. Economic interests and institutional constraints certainly play a role in ECB policymaking. For instance, the tacit consent of the German government was crucial for the effectiveness of Draghi’s path-breaking OMT program. Additionally, several economists interviewed for this project mentioned that the weight given to economists’ arguments in decision-making within the Eurosystem often reflects the power of their country of origin. Simply stated, everybody listens when the French and, particularly, the Germans speak. Their powerful constituencies give their words additional weight.

More broadly, the insight that our beliefs about what is possible influences what we deem desirable can also work in reverse: what we consider desirable may shape our beliefs about what is possible. For instance, the continuing influence of Ordoliberal thought in German policy debates mirrors its particularly close fit with what Germany’s economy needs. As Blyth (2015: 141-43) shows, the Ordoliberal instruction sheet is particularly well-designed to shape European policies in line with Germany’s economic interests. Ordoliberal ideas become synonymous with the national interest and it is unclear what comes first. In this way, many of Germany’s policy positions during the Euro crisis can be interpreted as both following Ordoliberal ideas and their naked self-interest.

I argue that the situation under examination here, however, carries different characteristics. I analyze decision-making among a closed circle of macroeconomic experts – central bank governors and their staff economists – under conditions of extreme uncertainty. These agents, whose specific connections to their home settings are unclear (partly because they are institutionally bound to not seek advice from their home constituencies and forced to adopt a ‘Euro area rhetoric’ in policy debates), were under pressure to deliver suitable policy responses to the worst economic crisis in generations. In such a situation, I argue, policymakers are likely to resort to their beliefs about ‘what works’ in order to deliver policies that work.

Similarly, when I argue that the Maastricht Treaty constrains ECB policymakers to a lesser degree than commonly assumed, I do not claim that they are completely unconstrained. As Bell (2011) points out, recognizing that agents matter does not necessarily



rule out engaging with institutional analysis, unless one adopts a particularly deterministic view of how institutions shape agents' behavior.

Yet the above shows that the ECB's recent decisions neither invariably reflect the preferences of economically dominant agents (or countries) nor a single interpretation of its mandate. Therefore additional factors must be at play. I thus argue that any *full* account of how the ECB makes choices *within the constraints it faces* must examine how central bankers perceive of economic problems and solutions. And this is a function of their core beliefs about the economy. Unfortunately, many studies neglect this human factor in central banking. Economics analyses of central bank behavior in particular tend to model central bank behavior as a reflection of their mandates, measured by detailed indices of central bank independence.

If we are to understand the relationship between agents and institutions, I argue, we need to carefully consider the room for discretion these institutions allow for. This is particularly tricky in the case of a vaguely phrased international treaty, which is supposed to guide a central bank's policies for decades – and thus through inevitably changing conditions without ever being amended itself. The ECB's mandate had in the past been regarded as particularly strict mandate, confining it to fight inflation single-mindedly. Arguably this was the widely shared interpretation of the Maastricht Treaty at the time of its negotiation, rather than an 'objective' reading of what the law actually said. This reading of Maastricht mirrored the prevailing monetary consensus from the 1980s up until the crisis. This means that it was this orthodox consensus before the crisis rather than the ECB's mandate which kept it from doing more. Breaking the rule book thus implied breaking the orthodox majority, not the law.

### ***The case for a multifaceted approach to empirical research on ideas***

Methodologically speaking, the main novelty this dissertation introduces is my attempt to *quantify ideas* based on an elite survey. The intuition behind this is rather simple: if we want to know what people think, why don't we simply ask them? Another quantitative approach to measuring ideas implies making use of recent developments in automated content analysis, which allows for identifying ideational variables within large bodies of textual data (e.g. central bankers' speeches or central bank working papers). Yet while data created following such quantitatively-oriented empirical strategies arguably contains fewer subjective elements than, say, interviewing or participant observation techniques, there are certainly drawbacks associated with them.

First, ideas are fuzzy concepts, hard to define and even harder to measure. Turning observations into numbers does not circumvent this problem, even though numbers sometimes lead us to falsely infer a higher degree of objectivity. On the upside, a standardized data collection forces the researcher to devote a lot of time and efforts on the operationalization of ideational variables before confronting empirical realities. On

the downside, this comes at the expense of flexibility. For instance, there was no way for me to change the wording of my belief items during the data collection stage without running the risk of invalidating the entire dataset. Second, depending on the research question at hand, quantitative indicators of beliefs may not tell us much. While they may point to more or less interesting correlations, they do not provide us with a causal story about *how* the observed variable affects real-world outcomes. In this dissertation, for instance, the quantitative analysis of my survey data may provide hints about which ideas matter (see chapter 5). Yet this alone cannot tell us whose ideas matter, when and how. To fully understand the role ideas played for the ECB's actual policy choices, one needs to understand an organization's decision-making procedures (see chapter 3) as well as the specific circumstances surrounding the decisions of interest (chapter 6).

This calls for embedding quantitative analysis within broader research designs, using statistical as well as interpretive methods to examine the same research question. It may lend an argument more credibility if the quantitative and the qualitative elements of the analysis speak to each other. By mixing methods I hope to contribute to a more multifaceted approach to ideational research, going beyond the narrative and interpretive methods that dominate the field. As the bulk of our profession appears to strongly prioritize quantitative analysis, I hope that introducing more quantitative approaches to the study of ideas may gain ideational arguments more attention within mainstream debates.

### ***What way ahead for European Monetary Union?***

At the time of writing (March 2017), the Eurozone appears more stable than for most of the past decade. However, there are good reasons to curb one's enthusiasm. After all, the Euro crisis has already seen several periods of relative calm which were all-too-soon followed by a new escalation. Going forward, then, one way to conclude this dissertation is to ask what, if anything, the results presented here may tell us about the future of the Euro. Is the escalation of Governing Council politics primarily a concern for the sustainability of collegial decision-making within the ECB? Will the wounds incurred by this harsh battle of ideas heal in due time or have they caused lasting damage? More positively, does the ECB's belated conversion signal a turn for more growth-friendly Eurozone policies, and will this lead to an accelerating recovery?

One key finding of my dissertation is the astonishing amount of disagreement among central bankers about how the economy works. One may argue that this lack of a consensus view merely reflects the uncertainties created by the crisis. Yet, several of my interviewees within the Eurosystem were unsurprised by the patterns found in the survey data, particularly regarding the differences between different Eurosystem institutions. This was more or less the pattern they expected to see, based on their frequent

interactions with my survey subjects in their daily work.<sup>118</sup> Otmar Issing, for instance, said that in his opinion the ECB faced two main challenges at the start of the Euro. “It passed the first test – namely, to manage a smooth transition to a completely new, common currency – with flying colors. The second challenge consisted in establishing a common understanding of monetary policy across the different cultures in Europe. This challenge remains and appears more substantial than ever before.”<sup>119</sup>

What does this persistence of different beliefs tell us about the future of European Monetary Union (EMU)? After all, practically any account of EMU creation in the academic literature (e.g. McNamara 1998; Dyson & Featherstone 1999) as well as reflections by policymakers (Issing 2008) emphasized how important the emergence of a monetary consensus was for EMU to be realized in the first place. In this light, the absence of consensus may be cause for concern. Amy Verdun reflected on this challenge already in the Euro’s early days: “EMU will lead to further revival of the EU if there remains a clear consensus and widespread support for common ideas on the objectives of economic and monetary policy. By contrast, EMU may end up posing a serious risk to the integration process if governments, the ECB, societal actors, and public opinion *disagree* about the aims of monetary policy and EMU’s design” (Verdun 2000a: 108). Arguably, the latter scenario describes the current situation rather well.

However, such concerns are not confined to the Eurosystem alone. After all, the broad monetary consensus of the 1980s and 1990s did not only pave the way to monetary union in Europe; it was also crucial for the rise of central bank independence around the globe. As almost everyone agreed on the goals of this technically complex policy, proponents argued that societies would achieve better results if they left the implementation of this task to independent experts instead of letting shortsighted politicians interfere. Thus, “once the consensus about the goals of monetary policy breaks down, the notion of central bank independence becomes harder to defend on democratic grounds” (Münchau 2017). When central bankers openly disagree and even engage in public disputes, monetary policy is increasingly perceived as monetary politics – and public trust in the impartiality of powerful, unelected technocrats evaporates. Central bankers then risk losing the only thing they value even more than stable prices: their independence.

---

<sup>118</sup> Interview (31), (32), (33)

<sup>119</sup> Personal communication with Otmar Issing, 31 Jan 2017.



## BIBLIOGRAPHY

- Acemoglu, Daron, Simon Johnson, Pablo Querubín, and James A. Robinson (2008): "When Does Policy Reform Work? The Case of Central Bank Independence", *Brookings Papers on Economic Activity* 39: 351-418.
- Adolph, Christopher (2013): *Bankers, Bureaucrats, and Central Bank Politics: The Myth of Neutrality*. Cambridge: Cambridge University Press.
- Akerlof, George A., and Robert J. Shiller (2010): *Animal Spirits: How Human Psychology Drives the Economy, and Why It Matters for Global Capitalism*. Princeton & Oxford: Princeton University Press.
- Alchian, Armen A., and Benjamin Klein (1973): "On a Correct Measure of Inflation." *Journal of Money, Credit and Banking* 5(1): 173-91.
- Alesina, Alberto, and Lawrence H. Summers (1993): "Central Bank Independence and Macroeconomic Performance: Some Comparative Evidence." *Journal of Money, Credit and Banking* 25(2): 151-62.
- Allen, Christopher S. (2005): "'Ordo-Liberalism' Trumps Keynesianism: Economic Policy in the Federal Republic of Germany and the EU", in: Bernard H. Moss (ed.): *Monetary Union in Crisis: The European Union as a Neo-Liberal Construction*. London: Palgrave Macmillan UK, 199-221.
- Asensio, Angel (2015): "Interest Rates Setting", in: Louis-Philippe Rochon and Sergio Rossi (eds.): *The Encyclopedia of Central Banking*. Cheltenham: Edward Elgar, 265-67.
- Asmussen, Jörg (2013): "Introductory Statement by the ECB in the Proceedings before the Federal Constitutional Court", *European Central Bank*, Karlsruhe, 11 June 2013.
- Badinger, Harald, and Volker Nitsch (2014): "National Representation in Supranational Institutions: The Case of the European Central Bank." *Journal of Comparative Economics* 42(1): 19-33.
- Ball, Laurence (2013): "The Case for 4% Inflation", *VOX Column*. London: CEPR.
- Barro, Robert J. (1996): "Inflation and Growth." *Federal Reserve Bank of St. Louis Review* 78(3): 153-69.
- Beck, Thorsten, Andrea Colciago, and Damjan Pfajfar (2014): "The Role of Financial Intermediaries in Monetary Policy Transmission." *Journal of Economic Dynamics and Control* 43: 1-11.
- Beckert, Jens (1996): "What Is Sociological About Economic Sociology? Uncertainty and the Embeddedness of Economic Action." *Theory and Society* 25(6): 803-40.
- Beirne, John, Lars Dalitz, Jacob Ejlsing, Magdalena Grothe, Simone Manganelli, Fernando Monar, Benjamin Sahel, Matjaž Sušec, Jens Tapking, and Tana Vong (2011): "The Impact of the Eurosystem's Covered Bond Purchase Programme on the Primary and Secondary Markets", *ECB Occasional Paper Series* No. 122.
- Béland, Daniel, and Robert Henry Cox (2010): "Introduction: Ideas and Politics", in: Daniel Béland and Robert Henry Cox (eds.): *Ideas and Politics in Social Science Research*. Oxford: Oxford University Press, 3-23.
- Bell, Stephen (2004): *Australia's Money Mandarins: The Reserve Bank and the Politics of Money*. Cambridge University Press.
- Bell, Stephen (2011): "Do We Really Need a New 'Constructivist Institutionalism' to Explain Institutional Change?" *British Journal of Political Science* 41(4): 883-906.
- Bennani, Hamza, and Matthias Neuenkirch (2017): "The (Home) Bias of European Central Bankers: New Evidence Based on Speeches", *Applied Economics* 49(11): 1114-31.
- Berger, Helge, and Jakob de Haan (2002): "Are Small Countries Too Powerful Within the ECB?" *Atlantic Economic Journal* 30(3), 263-282.
- Bernanke, Ben S. (2009): "The Crisis and the Policy Response", *Stamp Lecture at the London School of Economics*, London, 13 January 2009.

- Bernanke, Ben S. (2011): "The Effects of the Great Recession on Central Bank Doctrine and Practice." *56th Economic Conference of the Federal Reserve Bank of Boston*, 18 Oct 2011.
- Bernanke, Ben S. (2012): "Monetary Policy since the Onset of the Crisis", *Federal Reserve Bank of Kansas City Economic Symposium 2012*, Jackson Hole, Wyoming, 31 Aug 2012.
- Bernanke, Ben S., and Mark Gertler (2001): "Should Central Banks Respond to Movements in Asset Prices?" *American Economic Review* 91(2): 253-57.
- Bershidsky, Leonid (2014): "Prophet of Basel Battles Yellen, Draghi and Easy Money", *Bloomberg View*, 3 Jul 2014.
- Best, Jacqueline (2008): "Ambiguity, Uncertainty, and Risk: Rethinking Indeterminacy." *International Political Sociology* 2(4): 355-74.
- Bihari, Péter (2017): "The Moor Has Done His Duty. Should the Moor Go? The Past Effectiveness and Future Prospects for Forward Guidance in the United States and in the Eurozone", Workshop 'New Roles for Central Banks?', University of British Columbia, Vancouver, 2-3 Feb 2017.
- Binder, Sarah, and Mark Spindel (2016): "Independence and Accountability: Congress and the Fed in a Polarized Era", *Center for Effective Public Management at Brookings*.
- Bindseil, Ulrich, Clemens Domnick, and Jörg Zeuner (2015): "Critique of Accommodating Central Bank Policies and the 'Expropriation of the Saver': A Review", *ECB Occasional Paper Series* No. 161.
- Bini Smaghi, Lorenzo (2009): "Conventional and Unconventional Monetary Policy", *Keynote Lecture at the International Center for Monetary and Banking Studies*, Geneva, 28 April 2009.
- Bini Smaghi, Lorenzo (2017): "The ECB's Dilemma is When to Trigger the Turning Point ", *Financial Times*, 8 May 2017.
- Black, John, Nigar Hashimzade, and Gareth Myles (2012): *A Dictionary of Economics*. 4th Edition: Oxford University Press.
- Blanchard, Olivier, Giovanni Dell'Ariccia, and Paolo Mauro (2010): "Rethinking Macroeconomic Policy", *IMF Staff Position Note* No. 10/03.
- Blinder, Alan S. (2013): *After the Music Stopped: The Financial Crisis, the Response, and the Road Ahead*. New York: Penguin Press.
- Blinder, Alan S., and Ricardo Reis (2005): "Economic Performance in the Greenspan Era: The Evolution of Events and Ideas", in: The Federal Reserve Bank of Kansas City (ed.): *The Greenspan Era: Lessons for the Future*. Jackson Hole: The Federal Reserve Bank of Kansas City, 11-96.
- Blinder, Alan S., Michael Ehrmann, Jakob de Haan, and David-Jan Jansen (2016): "Necessity as the Mother of Invention: Monetary Policy after the Crisis", *Economic Policy*, 64th Panel Meeting of Economic Policy in Florence, 14-15 October 2016.
- Blinder, Alan S., Michael Ehrmann, Marcel Fratzscher, Jakob De Haan, and David-Jan Jansen (2008): "Central Bank Communication and Monetary Policy: A Survey of Theory and Evidence", *NBER Working Paper Series* No. 13932.
- Blyth, Mark (2002): *Great Transformations: Economic Ideas and Institutional Change in the Twentieth Century*. Cambridge: Cambridge University Press.
- Blyth, Mark (2006): "Great Punctuations: Prediction, Randomness, and the Evolution of Comparative Political Science." *American Political Science Review* 100(04): 493-98.
- Blyth, Mark (2007): "When Liberalisms Change: Comparing the Politics of Deflations and Inflations", in: Ravi K. Roy, Arthur T. Denzau and Thomas D. Willet (eds.): *Neoliberalism: National and Regional Experiments with Global Ideas*. London & New York: Routledge, 71-96.

- Blyth, Mark (2010): "On Setting and Upsetting Agendas", in: Andreas Gofas and Colin Hay (eds.): *The Role of Ideas in Political Analysis: A Portrait of Contemporary Debates*: Routledge, 167-85.
- Blyth, Mark (2015): *Austerity: The History of a Dangerous Idea*. Oxford & New York: Oxford University Press.
- Bofinger, Peter (2016): "German Macroeconomics: The Long Shadow of Walter Eucken", in: George Bratsiotis and David Cobham (eds.): *German Macro: How It's Different and Why That Matters*. Brussels: European Policy Centre, 8-19.
- Bofinger, Peter, and Sebastian Debes (2010): "A Primer on Unconventional Monetary Policy", *CEPR Discussion Paper* No. 7755.
- Bonefeld, Werner (2012): "Freedom and the Strong State: On German Ordoliberalism." *New Political Economy* 17(5): 633-56.
- Borio, Claudio (2014): "Monetary Policy and Financial Stability: What Role in Prevention and Recovery?" *BIS Working Papers* No. 440.
- Borio, Claudio, and Andrew Filardo (2007): "Globalisation and Inflation: New Cross-Country Evidence on the Global Determinants of Domestic Inflation", *BIS Working Papers* No. 227.
- Boyd, John H., and Bruce Champ (2006): "Inflation, Banking, and Economic Growth", *Economic Commentary*. Cleveland: Federal Reserve Bank of Cleveland.
- Braun, Benjamin (2015) "Governing the Future: the European Central Bank's Expectation Management During the Great Moderation", *Economy and Society*, 44(3): 367-391.
- Braun, Benjamin (2016): "Speaking to the People? Money, Trust, and Central Bank Legitimacy in the Age of Quantitative Easing", *Review of International Political Economy* 23(6): 1064-92.
- Braunberger, Gerald (2015): "Die MIT-Connection: Boston gegen die Bundesbank" *Frankfurter Allgemeine Sonntagszeitung*, 18 Jan 2015, 17-18.
- Briançon, Pierre (2015): "The House That Mario Built." *Politico*, 10 Dec 2015.
- Brunnermeier, Markus K., Harold James, and Jean-Pierre Landau (2016): *The Euro and the Battle of Ideas*: Princeton University Press.
- Buiter, Willem H. (2006): "Monetary Economics and the Political Economy of Central Banking: The Twin Threats of Sloppy Analysis and Institutional Hubris", *XI Meeting of the Research Network of Central Banks of the Americas*, Buenos Aires, 22-24 November 2006.
- Buiter, Willem H. (2012): "The Role of Central Banks in Financial Stability: How Has It Changed?" *CEPR Discussion Paper* No. 8780.
- Buiter, Willem H., and Ebrahim Rahbari (2012): "The ECB as Lender of Last Resort for Sovereigns in the Euro Area", *CEPR Discussion Paper* No. 8974.
- Bullard, James (2011): "Headline vs. Core Inflation: A Look at Some Issues." *The Regional Economist: A Quarterly Review of Business and Economic Conditions* 19(2): 3.
- Campbell, John L. (1998): "Institutional Analysis and the Role of Ideas in Political Economy." *Theory and Society* 27(3): 377-409.
- Cecchetti, Stephen G., and Kermit L. Schoenholtz (2008): "How Central Bankers See It: The First Decade of ECB Policy and Beyond", *NBER Working Paper* No. 14489.
- Chant, John F., and Keith Acheson (1973): "Mythology and Central Banking." *Kyklos* 26(2): 362-79.
- Christoffel, Kai, Günter Coenen, and Anders Warne (2008): "The New Area-Wide Model of the Euro Area - a Micro-Founded Open-Economy Model for Forecasting and Policy Analysis", *ECB Working Paper Series* No. 944.
- Chwieroth, Jeffrey M. (2007): "Testing and Measuring the Role of Ideas: The Case of Neoliberalism in the International Monetary Fund." *International Studies Quarterly* 51: 5-30.

- Clarida, Richard, Jordi Gali, and Mark Gertler (1999): "The Science of Monetary Policy: A New Keynesian Perspective", *Journal of Economic Literature* 37(4): 1661-1707.
- Cœuré, Benoît (2012): "The Euro Area Sovereign Debt Market: Lessons from the Crisis", *12th IMF Annual Forum on Managing Sovereign Risk and Public Debt*, Rio de Janeiro, 28-29 June 2012.
- Cohen, Benjamin J. (2008): "The Euro in a Global Context: Challenges and Capacities", in: Kenneth Dyson (ed.): *The Euro at 10: Europeanization, Power, and Convergence*. Oxford: Oxford University Press, 37-53.
- Colander, David, and Arjo Klamer (1987): "The Making of an Economist." *The Journal of Economic Perspectives* 1(2): 95-111.
- Cukierman, Alex (2002): "Are Contemporary Central Banks Transparent About Economic Models and Objectives and What Difference Does It Make?" *The Federal Reserve Bank of St. Louis Review* 84(4): 15-35.
- Cukierman, Alex (2007): "The Limits of Transparency", *Conference on "Monetary Policy, Transparency, and Credibility"*, Federal Reserve Bank of San Francisco, 23-24 March 2007.
- Cúrdia, Vasco, and Michael Woodford (2009): "Conventional and Unconventional Monetary Policy", *CEPR Discussion Paper* No. 7514.
- D'Amico, Stefania, and Thomas B. King (2013): "Flow and Stock Effects of Large-Scale Treasury Purchases: Evidence on the Importance of Local Supply." *Journal of Financial Economics* 108(2): 425-48.
- Darracq-Paries, Matthieu, and Roberto De Santis (2013): "A Non-Standard Monetary Policy Shock: The ECB's 3-Year LTROs and the Shift in Credit Supply", *ECB Working Papers* No. 1508.
- Davies, Gavyn (2013): "Fed and Bank of England Head in Different Directions", *Macroeconomics*, *Financial Times*, 21 Feb 2013.
- Davies, Gavyn (2014a): "Keynesian Yellen Versus Wicksellian BIS", *Macroeconomics*, *Financial Times*, 6 Jul 2014.
- Davies, Gavyn (2014b): "The Fed and ECB Differ Sharply on the Oil Shock", *Macroeconomics*, *Financial Times*, 4 Dec 2014.
- Davies, Gavyn (2014c): "Fault lines within the ECB", *Macroeconomics*, *Financial Times*, 26 Nov 2014.
- Davies, Gavyn (2015): "The ECB Shows the Zeal of a Convert", *Macroeconomics*, *Financial Times*, 22 Nov 2015.
- Davies, Howard, and David Green (2010): *Banking on the Future: The Fall and Rise of Central Banking*. Princeton: Princeton University Press.
- Davig, Troy and Refet Gürkaynak (2015): "Is Optimal Monetary Policy Always Optimal?" *International Journal of Central Banking* 11: 353-384.
- De Grauwe, Paul (2013): "The Political Economy of the Euro", *Annual Review of Political Science*, 16: 153-170.
- De Grauwe, Paul (2014): "Economic theories that influenced the judges of Karlsruhe", *Vox Column*, 13 Mar 2014.
- De Grauwe, Paul, and Yuemei Ji (2015): "Correcting for the Eurozone Design Failures: The Role of the ECB", *Journal of European Integration* 37(7): 739-54.
- Dellepiane-Avellaneda, Sebastian (2016): "Rethinking Credible Commitment: The Ideational Roots of Central Banking in Britain (1979-2015)", *ECPR Workshop "The Politics of Central Banking"*, Pisa, 24-28 April 2016.
- den Haan, Wouter (2013): "Introduction: Forward Guidance", in: Wouter den Haan (ed.): *Forward Guidance: Perspectives from Central Bankers, Scholars and Market Participants*. London: CEPR, 1-21.



- Dincer, N. Nergiz and Barry Eichengreen (2014): "Central Bank Transparency and Independence: Updates and New Measures", *International Journal of Central Banking* 10(1): 189-253.
- Dow, Sheila (2013): "Keynes on Knowledge, Expectations, and Rationality", in: Roman Frydman and Edmund S. Phelps (ed.): *Rethinking Expectations: The Way Forward for Macroeconomics*. Princeton & Oxford: Princeton University Press, 112-29.
- Dow, Sheila C. (2014): "The Relationship between Central Banks and Governments: What Are Central Banks For?", in: Charles A.E. Goodhart et. al (eds.): *Central Banking at a Crossroads: Europe and Beyond*. London: Anthem Press, 229-43.
- Draghi, Mario (2012a): "Verbatim of the remarks made by Mario Draghi", Speech at the *Global Investment Conference in London*, 26 July 2012.
- Draghi, Mario (2012b): "The Future of the Euro: Stability through Change", *Die Zeit*, 29 Aug 2012.
- Draghi, Mario (2013a): "Introductory Statement to the Press Conference (with Q&A)", Frankfurt: *European Central Bank*, 6 June 2013.
- Draghi, Mario (2013b): "Introductory Statement to the Press Conference (with Q&A)", Frankfurt: *European Central Bank*, 7 November 2013.
- Draghi, Mario (2014a): "Monetary Policy in a Prolonged Period of Low Inflation", *ECB Forum on Central Banking*, Sintra, 26 May 2014.
- Draghi, Mario (2014b): "Introductory Statement to the Press Conference (with Q&A)", Frankfurt: *European Central Bank*, 5 June 2014.
- Draghi, Mario (2014c): "Introductory Statement to the Press Conference (with Q&A)", Frankfurt: *European Central Bank*, 6 November 2014.
- Draghi, Mario (2014d): "Monetary Policy in the Euro Area", *European Banking Congress*. Frankfurt, 21 November 2014.
- Draghi, Mario (2014e): "Introductory Statement to the Press Conference (with Q&A)", Frankfurt: *European Central Bank*, 4 December 2014.
- Draghi, Mario (2014f): "Unemployment in the euro area." *Annual Central Bank Symposium in Jackson Hole*, Federal Reserve Bank of Kansas, 22 August 2014.
- Draghi, Mario (2015a): "Interview with Handelsblatt." *Handelsblatt*, 2 Jan 2015.
- Draghi, Mario (2015b): "Monetary Policy: Past, Present and Future", *European Banking Congress*, Frankfurt, 20 November 2015.
- Draghi, Mario (2016a): "Introductory Statement to the press conference (with Q&A)", Frankfurt: *European Central Bank*, 21 Jan 2016.
- Draghi, Mario (2016b): "How domestic economic strength can prevail over global weakness", *Keynote speech at the Deutsche Börse Group New Year's reception*, Eschborn, 25 Jan 2016.
- Draghi, Mario (2016c): *Interview with Bild*, 25 Apr 2016 (published 28 Apr 2016)
- Draghi, Mario (2017): "Introductory Statement to the Press Conference (with Q&A)", Frankfurt: *European Central Bank*, 9 March 2017.
- Duisenberg, Willem F. (1998): "Hearing of Mr Wim Duisenberg, President designate of the ECB", *European Parliament*, 7 May 1998.
- Duisenberg, Willem F. (2001): "Hearing before the Committee on Economic and Monetary Affairs of the European Parliament", Brussels: *European Parliament*.
- Dyson, Kenneth (1994): *Elusive Union: The Process of Economic and Monetary Union in Europe*. Longman.
- Dyson, Kenneth (1999): "Economic and Monetary Union in Europe: A Transformation of Governance", in: Beate Kohler-Koch and Rainer Eising (eds.): *The Transformation of Governance in the European Union*. London: Routledge, 97-118.
- Dyson, Kenneth (2000): *The Politics of the Euro-Zone: Stability or Breakdown?* Oxford: Oxford University Press.

- Dyson, Kenneth (2008): "The First Decade: Credibility, Identity, and Institutional Fuzziness", in: Kenneth Dyson (ed.): *The Euro at 10: Europeanization, Power, and Convergence*. Oxford: Oxford University Press, 1-34.
- Dyson, Kenneth (2009): "German Bundesbank: Europeanization and the Paradoxes of Power", in: Kenneth Dyson and Martin Marcussen (eds.): *Central Banks in the Age of the Euro: Europeanization, Convergence, and Power*. Oxford & New York: Oxford University Press, 131-59.
- Dyson, Kenneth, and Kevin Featherstone (1999): *The Road to Maastricht: Negotiating Economic and Monetary Union*. Oxford: Oxford University Press.
- Economist, The (2006): "Central Banks: Running on M3." *The Economist*, 23 Mar 2006.
- Economist, The (2011a): "The European Central Bank: The Italian's Job." *The Economist*, 17 Feb 2011.
- Economist, The (2011b): "The Euro Crisis: Who Killed the Euro Zone?" *The Economist*, 28 Nov 2011.
- Economist, The (2013): "The ECB's Rate Cut: Forced to Act." *The Economist*, 7 Nov 2013.
- Economist, The (2015a): "The ECB's Momentous Meeting: QE is coming, but on German terms." *The Economist: Free Exchange*, 20 Jan 2015
- Economist, The (2015b): "Germany and Economics: Of Rules and Order." *The Economist*, 9 May 2015.
- Eggertsson, Gauti B., and Michael Woodford (2003): "The Zero Bound on Interest Rates and Optimal Monetary Policy." *Brookings Papers on Economic Activity* 34(1): 139-211.
- Ehrmann, Michael, and Panagiota Tzamouri (2009): "Memories of High Inflation", *ECB Working Paper* 1095.
- Eichengreen, Barry (2015): *Hall of Mirrors: The Great Depression, the Great Recession, and the Uses - and Misuses - of History*. Oxford University Press.
- Eijffinger, S.C.W. (2005): "The European Central Bank and Financial Supervision", in: Masciandaro, D. (ed.): *Handbook of Central Banking and Financial Authorities in Europe: New Architectures in the Supervision of Financial Markets*, 457-.
- Eijffinger, Sylvester C.W., and Jakob de Haan (1996): "The Political Economy of Central Bank Independence", *Princeton Special Papers in International Economics* No 19.
- El-Erian, Mohamed A. (2012): "Introducing the 'Reverse Volcker Moment'", *The A-List, Financial Times*, 20 Sep 2012.
- El-Erian, Mohamed A. (2013): "The Evolution of Modern Central Banking: What Happens Next", in: Lucrezia Reichlin and Richard Baldwin (eds.): *Is Inflation Targeting Dead? Central Banking after the Crisis*. London: CEPR, 66-73.
- Enderlein, Henrik, and Amy Verdun (2009): "EMU's Teenage Challenge: What Have We Learned and Can We Predict from Political Science?" *Journal of European Public Policy* 16(4): 490-507.
- Eser, Fabian, and Bernd Schwaab (2016): "Evaluating the Impact of Unconventional Monetary Policy Measures: Empirical Evidence from the ECB's Securities Markets Programme", *Journal of Financial Economics* 119(1): 147-67.
- Eucken, Walter (1952): *Grundsätze der Wirtschaftspolitik*. Tübingen: Mohr Siebeck.
- European Central Bank, ECB (2003): "The ECB's monetary policy strategy", *ECB Press Release*, 8 May 2003.
- European Central Bank, ECB (2009): "Rotation of Voting Rights in the Governing Council of the ECB." *ECB Monthly Bulletin* July 2009: 91-99.
- European Central Bank, ECB (2010): "The ECB's Response to the Financial Crisis." *ECB Monthly Bulletin* (October 2010): 59-74.
- European Central Bank, ECB (2011): "The Monetary Policy of the ECB", Frankfurt: *European Central Bank*.

- European Central Bank, ECB (2014): "The ECB's Forward Guidance." *ECB Monthly Bulletin* April 2014: 65-73.
- Fawley, Brett W., and Christopher J. Neely (2013): "Four Stories of Quantitative Easing." *Federal Reserve Bank of St. Louis Review* 95(1): 51-88.
- Fehr, Ernst, and Jean-Robert Tyran (2001): "Does Money Illusion Matter?" *The American Economic Review* 91(5): 1239-62.
- Fehr, Ernst, and Jean-Robert Tyran (2004): "Expectations and the Effects of Money Illusion", *DNB Staff Reports No. 115/2004*.
- Feld, Lars (2016): "German Macroeconomics: The Long Shadow of Walter Eucken", in: George Bratsiotis and David Cobham (eds.): *Is German (Macro-) Economic Policy Different?* Brussels: European Policy Centre, 42-54.
- Feld, Lars P., Ekkehard A. Köhler, and Daniel Nientiedt (2015): "Ordoliberalism, Pragmatism and the Eurozone Crisis: How the German Tradition Shaped Economic Policy in Europe", *Freiburger Diskussionspapiere zur Ordnungsökonomik* No. 15-04. University of Freiburg.
- Feldstein, Martin (1997): "The Political Economy of the European Economic and Monetary Union: Political Sources of an Economic Liability." *The Journal of Economic Perspectives* 11(4): 23-42.
- Feldstein, Martin (2008): "The Crisis: A Tale of Two Monetary Policies." *Financial Times*, 7 Aug 2008.
- Feldstein, Martin (2016): "The Shortcomings of Quantitative Easing in Europe." *Project Syndicate*, 29 Jan 2016.
- Fisher, Irving (1911): *The Purchasing Power of Money: Its Determination and Relation to Credit, Interest and Crises*. New York: Macmillan.
- Fisher, Irving (1928): *The Money Illusion*. Toronto: Longmans.
- Frankel, Jeffrey (2013): "Nominal-GDP Targets, without Losing the Inflation Anchor", in: Lucrezia Reichlin and Richard Baldwin (ed.): *Is Inflation Targeting Dead? Central Banking after the Crisis*. London: Centre for Economic Policy Research, 90-94.
- Frey, Bruno S., Silke Humbert, and Friedrich Schneider (2007): "Was Denken Deutsche Ökonomen? Eine empirische Auswertung einer Internetbefragung unter den Mitgliedern des Vereins Für Socialpolitik im Sommer 2006." *Perspektiven der Wirtschaftspolitik* 8(4): 359-77.
- Friedman, Milton (1960): *A Program for Monetary Stability*. Fordham, NY: Fordham University Press.
- Friedman, Milton (1968): "The Role of Monetary Policy." *American Economic Review* 58(1): 1-17.
- Friedman, Milton (1969): *The Optimum Quantity of Money*. London: Macmillan.
- Friedman, Milton (1970): "The Counter-Revolution in Monetary Theory", *IEA Occasional Paper* No. 33. London: Institute of Economic Affairs.
- Friedman, Milton (1991): "The Island of Stone Money", *Hoover Institution Working Papers in Economics* E-91-3. Stanford University.
- Friedman, Milton, and Rose Friedman (1982): *Capitalism and Freedom*. Chicago: University of Chicago Press.
- Frydman, Roman, and Edmund S. Phelps (2013): "Which Way Forward for Macroeconomics and Policy Analysis?", in: Roman Frydman and Edmund S. Phelps (eds.): *Rethinking Expectations: The Way Forward for Macroeconomics*. Princeton & Oxford: Princeton University Press, 1-46.
- Gambacorta, Leonardo, Boris Hofmann, and Gert Peersman (2012): "The Effectiveness of Unconventional Monetary Policy at the Zero Lower Bound: A Cross-Country Analysis", *BIS Working Papers* No. 384.

- Gamber, E. N., and J. H. Hung (2001): "Has the Rise in Globalization Reduced U.S. Inflation in the 1990s?" *Economic Inquiry* 39(1): 58-73.
- Genscher, Hans-Dietrich (1988): "Memorandum für die Schaffung eines Europäischen Währungsraumes und einer Europäischen Zentralbank." *BB/AaP* 15/1988.
- Gerring, John (1997): "Ideology: A Definitional Analysis", *Political Research Quarterly* 50(4): 957-94.
- Giavazzi, Francesco, Richard Portes, Beatrice Weder di Mauro, and Charles Wyplosz (2013): "The Wisdom of Karlsruhe: The OMT Court Case Should Be Dismissed", *Vox Column*, 12 June 2013.
- Gibson, Heather D., Stephen G. Hall, and George S. Tavlas (2015): "The Effectiveness of the ECB's Asset Purchase Programs of 2009 to 2012", University of Leicester, *Department of Economics Working Paper* No. 15/24.
- Golub, Stephen, Ayse Kaya, and Michael Reay (2014): "What Were They Thinking? The Federal Reserve in the Run-up to the 2008 Financial Crisis", *Review of International Political Economy* 22(4): 657-92.
- Goodhart, Charles A. E. (1988): *The Evolution of Central Banks*, Cambridge: MIT Press
- Goodhart, Charles A.E. (1992): "Entretien", *Revue d'Économie Financière* 22, 31-5.
- Goodhart, Charles A.E. (2003): "Whither Central Banking?", in: David E. Altig and Bruce D. Smith (ed.): *Evolution and Procedures in Central Banking*. Cambridge: Cambridge University Press, 65-81.
- Gordon, Robert J. (2016): *The Rise and Fall of American Growth: The U.S. Standard of Living since the Civil War*. Princeton: Princeton University Press.
- Greenspan, Alan (2002): "Opening Remarks", in: Federal Reserve Bank of Kansas City (ed.): *Rethinking Stabilization Policy*. Jackson Hole: Federal Reserve Bank of Kansas City, 1-10.
- Greenspan, Alan (2003): "Monetary Policy under Uncertainty", *Symposium sponsored by the Federal Reserve Bank of Kansas City*, Jackson Hole, 29 Aug 2003.
- Greenspan, Alan (2014): *The Map and the Territory 2.0: Risk, Human Nature, and the Future of Forecasting*. New York: Penguin.
- Greider, William (1987): *Secrets of the Temple: How the Federal Reserve runs the country*, New York: Touchstone.
- Gros, Daniel, and Niels Thygesen (1992): *European Monetary Integration*. London: Longman.
- Gros, Daniel, Cinzia Alcidi, and Alessandro Giovannini (2012): "Central Banks in Times of Crisis: The Fed vs. the ECB", *CEPS Policy Brief* No. 276.
- Hagen, Jürgen von and Matthias Brückner (2003): "Monetary Policy in Unknown Territory: The European Central Bank in the Early Years", in: David E. Altig and Bruce D. Smith (ed.): *Evolution and Procedures in Central Banking*: Cambridge University Press, 95-126.
- Hall, Peter A. (2012): "The Economics and Politics of the Euro Crisis." *German Politics* 21(4): 355-71.
- Hall, Rodney Bruce (2008): *Central Banking as Global Governance: Constructing Financial Credibility*. Cambridge: Cambridge University Press.
- Hansen, Stephen, Michael F. McMahon, and Carlos Velasco Rivera (2013): "How Experts Decide: Preferences or Private Assessments on a Monetary Policy Committee?" *CE-Sifo Working Paper* 4201. Munich: Ifo Institute.
- Hausken, Kjell, and Mthuli Ncube (2013): *Quantitative Easing and Its Impact in the US, Japan, the UK and Europe*, *Springer Briefs in Economics*: Springer.
- Hay, Colin, and Nicola Jo-Anne Smith (2010): "How Policy Makers Really Understand Globalization: The Internal Architecture of Anglophone Globalization Discourse in Europe." *Public Administration* 88(4): 903-27.

- Hayo, Bernd (1998): "Inflation Culture, Central Bank Independence and Price Stability." *European Journal of Political Economy* 14: 241-63.
- Hayo, Bernd, and Pierre-Guillaume Méon (2013): "Behind Closed Doors: Revealing the ECB's Decision Rule." *Journal of International Money and Finance* 37: 135-60.
- Heclo, Hugh (1974): *Modern Social Politics in Britain and Sweden: From Relief to Income Maintenance*. New Haven & London: Yale University Press.
- Heinemann, Friedrich, and Felix P. Huefner (2004): "Is the View from the Eurotower Purely European? National Divergence and ECB Interest Rate Policy." *Scottish Journal of Political Economy* 51(4): 544-58.
- Heisenberg, Dorothee (1999): *The Mark of the Bundesbank: Germany's Role in European Monetary Cooperation*. Boulder: Lynne Rienner.
- Helgadóttir, Oddný (2016): "The Bocconi Boys Go to Brussels: Italian Economic Ideas, Professional Networks and European Austerity" *Journal of European Public Policy* 23(3): 392-409.
- Hilsenrath, Jon, and Brian Blackstone (2012): "Inside the Risky Bets of Central Banks." *Wall Street Journal*, 12 Dec 2012.
- Hix, Simon, Bjorn Hoyland, and Nick Vivyan (2010): "From Doves to Hawks: A Spatial Analysis of Voting in the Monetary Policy Committee of the Bank of England." *European Journal of Political Research* 49(6): 731-58.
- Hoover, Kevin D. (2008): "Phillips Curve", in: David R. Henderson (ed.): *The Concise Encyclopedia of Economics*. Liberty Fund.
- Horáková, Martina, and Amy Jordan (2014): *The Franklin Templeton Investments Central Bank Directory*. London: Central Banking Publications.
- Howarth, David (2009): "The European Central Bank: The Bank That Rules Europe?", in: Kenneth Dyson and Martin Marcussen (ed.): *Central Banks in the Age of the Euro: Europeanization, Convergence, and Power*. Oxford & New York: Oxford University Press, 73-88.
- Howarth, David, and Charlotte Rommerskirchen (2013): "A Panacea for All Times? The German Stability Culture as Strategic Political Resource." *West European Politics* 36(4): 750-70.
- Hübner, Kurt (2002): "Reputation Failure: The Economic and Monetary Union and Its Institutional Flaws", *CCGES Working Paper* No 3. Toronto: The Canadian Centre for German and European Studies.
- Ip, Greg (2016): "The Case for Raising the Fed's Inflation Target", *Wall Street Journal*, 19 Aug 2016.
- Irwin, Neil (2013): *The Alchemists: Three Central Bankers and a World on Fire*. New York: Penguin.
- Issing, Otmar (1999): "The Monetary Policy of the ECB in a World of Uncertainty". *Conference on "Monetary Policy-Making Under Uncertainty"* organised by the European Central Bank and the Center for Financial Studies, Frankfurt am Main: 3-4 December 1999.
- Issing, Otmar (2000): "Walter Eucken: vom Primat der Währungspolitik". *Speech at Walter-Eucken-Institut* in Freiburg, 17 March 2000.
- Issing, Otmar (2004): "On the primacy of price stability". *Prager-Frühlings-Vortrag* at Liberální Institut in Prague, 10 June 2004.
- Issing, Otmar (2005): "Why Did the Great Inflation Not Happen in Germany?" *Federal Reserve Bank of St. Louis Review* 87(2), 329-35.
- Issing, Otmar (2006): "Central Bank Independence - Economic and Political Dimensions." *National Institute Economic Review* 196(April): 66-76.

- Issing, Otmar (2007): "Dinner Speech", in: European Central Bank (ed.): *'A Journey from Theory to Practice' - an ECB Colloquium in Honour of Otmar Issing* (16-17 March 2006), Frankfurt: 82-84.
- Issing, Otmar (2008): *The Birth of the Euro*, Cambridge: Cambridge University Press.
- Issing, Otmar (2011a): "Lessons for Monetary Policy: What Should the Consensus Be?", *IMF Working Paper No. 11/97*.
- Issing, Otmar (2011b): "Moral Hazard Will Result from ECB Bond Buying", *Financial Times*, 30 Nov 2011.
- Issing, Otmar (2015): "Die Letzte Waffe – Helicopter Money?", *SAFE Policy Paper*. Frankfurt: Goethe University.
- Issing, Otmar (2016): "Ludwig Erhard - Überall Und Nirgendwo", in: Otmar Issing (ed.): *Der Euro in Stürmischen Zeiten*. München: Franz Vahlen, 301-08.
- James, Harold (2012): *Making the European Monetary Union*, Cambridge & London: Harvard University Press.
- Johnson, Juliet, Vincent Arel-Bundock, and Vladislav Portniaguine (2016): "What Did Central Bankers Learn About Monetary Policy from the Global Financial Crisis?" *ECPR Workshop 'The Politics of Central Banking'*, Pisa, 24-28 April 2016.
- Jones, David M. (2014): *Understanding Central Banking: The New Era of Activism*. New York: M.E. Sharpe.
- Jones, Erik (2013): "The Collapse of the Brussels-Frankfurt Consensus and the Future of the Euro", in: Vivien A. Schmidt and Mark Thatcher (ed.): *Resilient Liberalism in Europe's Political Economy*. Cambridge: Cambridge University Press, 145-70.
- Jordan, Jerry L. (2014): "A Century of Central Banking: What Have We Learned?" *Cato Journal* 34(2): 213-27.
- Joyce, Michael A. S., and Matthew Tong (2012): "QE and the Gilt Market: A Disaggregated Analysis." *The Economic Journal* 122(564): F348-F84.
- Jung, Alexander (2013): "Policymakers' Interest Rate Preferences: Recent Evidence for Three Monetary Policy Committees." *International Journal of Central Banking* 9(3): 145-92.
- Jung, Alexander, Francesco Paolo Mongelli, and Philippe Moutot (2010): "How Are the Eurosystem's Monetary Policy Decisions Prepared? A Roadmap." *JCMS: Journal of Common Market Studies* 48(2): 319-45.
- Kaelberer, Matthias (1996): "Germany's Incentives for European Monetary Cooperation." *German Politics & Society* 14(3 (40)): 31-53.
- Kaltenthaler, Karl (1998): *Germany and the Politics of Europe's Money*. Durham: Duke University Press.
- Kaltenthaler, Karl (2005): "The Bundesbank and the Formation of the ECB's Monetary Policy Strategy." *German Politics* 14(3): 297-314.
- Kaltenthaler, Karl (2006): *Policymaking in the European Central Bank: The Masters of Europe's Money*. Lanham: Rowman & Littlefield.
- Kang, Dae Woong, Nick Ligthart, and Ashoka Mody (2015): "The European Central Bank: Building a Shelter in a Storm", *Griswold Center for Economic Policy Studies Working Paper No. 248*, Princeton University.
- Karimzadi, Shahzavar (2013): *Money and Its Origins, Routledge International Studies in Money and Banking*. London & New York: Routledge.
- Keynes, John Maynard (1937): "Some Economic Consequences of a Declining Population." *Eugenics Review* 29: 13-17.
- King, Mervyn (2003): "No Money, No Inflation - the Role of Money in the Economy", in: Paul Mizen (ed.): *Central Banking, Monetary Theory and Practice*. Cheltenham & Northampton: Edward Elgar, 62-89.
- King, Mervyn (2016): *The End of Alchemy: Money, Banking and the Future of the Global Economy*. W.W. Norton.

- Kirshner, Jonathan (1998): "Disinflation, Structural Change, and Distribution." *Review of Radical Political Economics* 30(1): 53-89.
- Kirshner, Jonathan (1999): "Inflation: Paper Dragon or Trojan Horse?" *Review of International Political Economy* 6(4): 609-18.
- Knight, Frank (1921): *Risk, Uncertainty and Profit*. Boston: Houghton Mifflin.
- Kool, Clemens J.M. (2006): "What Drives ECB Monetary Policy?", in: William Mitchell, Joan Muysken and Tom Van Veen (eds.): *Growth and Cohesion in the European Union: The Impact of Macroeconomic Policy*. Cheltenham: Edward Elgar, 74-97.
- Krugman, Paul (1998): "It's Baaack: Japan's Slump and the Return of the Liquidity Trap " *Brookings Papers on Economic Activity* 29(2): 137-205.
- Krugman, Paul (2011a): "The Madness of Jean-Claude Trichet", *New York Times: The Conscience of a Liberal*, 4 Mar 2011.
- Krugman, Paul (2011b): "The ECB's Reverse FDR", *New York Times: The Conscience of a Liberal*, 29 Nov 2011
- Krugman, Paul (2014): "Inflation Targets Reconsidered", Paper to be presented at the ECB Forum on Central Banking, Sintra, 27 May 2014.
- Kübler, Friedrich (2012): "Institutional Aspects of the Eurozone Crisis", in: Allen, Carletti and Simonelli (eds.): *Governance for the Eurozone: Integration or Disintegration?*, Philadelphia: FIC Press, 29-39
- Kydland, Finn E. & Edward C. Prescott (1977): "Rules Rather Than Discretion: The Inconsistency of Optimal Plans", *Journal of Political Economy* 85(3): 473-91.
- Loedel, Peter Henning (1999): *Deutsche Mark Politics: Germany in the European Monetary System*. Boulder: Lynne Rienner.
- López-Villavicencio, Antonia, and Sophie Saglio (2014): "Is Globalization Weakening the Inflation–Output Relationship?" *Review of International Economics* 22(4): 744-58.
- Lucas, Robert E. (1977): "Understanding Business Cycles", *Carnegie-Rochester Conference Series on Public Policy* 5: 7-29.
- Lukes, Steven (2004): *Power: A Radical View* (2nd ed.) Houndmills: Palgrave Macmillan.
- Maes, Ivo, and Amy Verdun (2005): "Small States and the Creation of Emu: Belgium and the Netherlands, Pace-Setters and Gate-Keepers", *Journal of Common Market Studies* 43(2): 327-48.
- Malmendier, Ulrike, and Stefan Nagel (2016): "Learning from Inflation Experiences", *The Quarterly Journal of Economics* 131(1): 53-87.
- Marcussen, Martin (2000): *Ideas and Elites: The Social Construction of Economic and Monetary Union*. Aalborg: Aalborg University Press.
- Marcussen, Martin (2006): "The Transnational Governance Network of Central Bankers", in: Marie-Laure Djelic and Kerstin Sahlin-Andersson (ed.): *Transnational Governance: Institutional Dynamics of Regulation*. Cambridge: Cambridge University Press, 180-204.
- Marcussen, Martin (2009): "Scientization of Central Banking: The Politics of A-Politicization", in: Kenneth Dyson and Martin Marcussen (eds.): *Central Banks in the Age of the Euro: Europeanization, Convergence, and Power*. Oxford: Oxford University Press, 373-90.
- Marsh, David (1992): *The Bundesbank: The Bank That Rules Europe*. London: Heinemann.
- Marsh, David (2015): "German Opt-out Could Fatally Weaken Eurozone QE." *MarketWatch Opinion*, 22 Jan 2015.
- Martin, Felix (2013): *Money: The Unauthorized Biography*. London: Bodley Head.
- Maugeri, Novella (2010): "Money Illusion and Rational Expectations: New Evidence from Well Known Survey Data", *Quaderni del Dipartimento di Economia Politica* No. 606. Siena: Università degli Studi di Siena.

- McCallum, Bennett T. (2008): "Inflation Expectations", in: Steven N. Durlauf and Lawrence E. Blume (eds.): *The New Palgrave Dictionary of Economics*, Second Edition.
- McNamara, Kathleen R. (1998): *The Currency of Ideas: Monetary Politics in the European Union*, Cornell Studies in Political Economy. Ithaca: Cornell University Press.
- McNamara, Kathleen R. (2002): "Rational Fictions: Central Bank Independence and the Social Logic of Delegation." *West European Politics* 25(1): 47-76.
- McNamara, Kathleen R. (2006a): "Economic Governance, Ideas and EMU: What Currency Does Policy Consensus Have Today?" *Journal of Common Market Studies* 44(4): 803-21.
- McNamara, Kathleen R. (2006b): "Managing the Euro: The European Central Bank", in: John Peterson and Michael Shackleton (eds.): *The Institutions of the European Union*, 2nd Ed. Oxford: Oxford University Press, 169-89.
- McNamara, Kathleen R., and Erik Jones (1996): "The Clash of Institutions: Germany in European Monetary Affairs." *German Politics & Society* 14(3): 5-30.
- Meade, Ellen E., and D. Nathan Sheets (2005): "Regional Influences on FOMC Voting Patterns." *Journal of Money, Credit and Banking* 37(4): 661-77.
- Meltzer, Allan H. (2009): "Inflation Nation", *The New York Times*, 3 May 2009, A23.
- Merler, Silvia (2014): "T-LTRO: Variation on a (ECB's) Theme", *Bruegel*, 20 Sep 2014.
- Micossi, Stefano (2015): "The Monetary Policy of the European Central Bank (2002-2015)", *CEPS Special Report* 109.
- Mishkin, Frederic S. (2011): "How Should Central Banks Respond to Asset-Price Bubbles? The 'Lean' Versus 'Clean' Debate after the GFC" *Reserve Bank of Australia Bulletin* (June 2011): 59-70.
- Moghadam, Reza, Ranjit Teja, and Pelin Berkmen (2014): "Euro Area: 'Deflation' Versus 'Lowflation'", *IMFdirect*, International Monetary Fund.
- Mongelli, Francesco Paolo (2008): "European Economic and Monetary Integration, and the Optimum Currency Area Theory", *DG ECFIN Economic Papers* No. 302.
- Moravcsik, Andrew (1998): *The Choice for Europe: Social Purpose and State Power from Messina to Maastricht*. Ithaca: Cornell University Press.
- Moschella, Manuela (2015): "Currency Wars in the Advanced World: Resisting Appreciation at a Time of Change in Central Banking Monetary Consensus", *Review of International Political Economy* 22(1): 134-61.
- Moutot, Philippe, Alexander Jung, and Francesco Paolo Mongelli (2008): "The Workings of the Eurosystem: Monetary Policy Preparations and Decision-Making - Selected Issues", *ECB Occasional Paper Series* No. 79. Frankfurt: European Central Bank.
- Münchau, Wolfgang (2014): "The Wacky Economics of Germany's Parallel Universe", *Financial Times*, 16 Nov 2014.
- Münchau, Wolfgang (2016): "Mario Draghi's Inflation Targets Miss the Mark", *Financial Times*, 24 Jan 2016.
- Münchau, Wolfgang (2017): "Central Bank Independence Is Losing Its Lustre." *Financial Times*, 19 Feb 2017.
- Muth, John F. (1961): "Rational Expectations and the Theory of Price Movements", *Econometrica* 29(3): 315-35.
- Neuenkirch, Matthias, and Pierre L. Siklos (2013): "What's in a Second Opinion? Shadowing the ECB and the Bank of England", *European Journal of Political Economy* 32: 135-48.
- New York Times (2011): "Mr. Draghi Makes a Start." *The New York Times*, 3 Nov 2011, A30.
- Noussair, Charles N., Gregers Richter, and Jean-Robert Tyran (2012): "Money Illusion and Nominal Inertia in Experimental Asset Markets." *Journal of Behavioral Finance* 13(1): 27-37.



- Odendahl, Christian (2014): "Why Devaluing the Euro Is Not Mercantilism", *CER Insight*, London: Centre for European Reform,
- Orphanides, Athanasios (2009): "The international financial turmoil and the economy", *Speech at the Institute of Certified Public Accountants*, Limassol, 28 Jan 2009.
- Orphanides, Athanasios (2013): "Is monetary policy overburdened?" *BIS Working Paper* 43.
- Padoa-Schioppa, Tommaso (1996): "The Genesis of EMU: A Retrospective View", *Jean Monnet Chair Paper* 96/40. San Domenico di Fiesole: European University Institute.
- Padoa-Schioppa, Tommaso (1999): "EMU and Banking Supervision", *International Finance*, 2(2): 295-308.
- Padoa-Schioppa, Tommaso (2000): "Domestic Payments in Euroland: Commercial and Central Bank Money", *Speech at the European Commission Round-Table "Establishing a Single Payment Area: State of Play and Next Steps"* Brussels: European Central Bank.
- Phelps, Edmund S. (1967): "Phillips Curves, Expectations of Inflation and Optimal Unemployment over Time." *Economica* 34: 254-81.
- Phillips, A. W. (1958): "The Relation between Unemployment and the Rate of Change of Money Wage Rates in the United Kingdom, 1861-1957." *Economica* 25: 283-99.
- Pisani-Ferry, Jean (2014): *The Euro Crisis and Its Aftermath*. Oxford, New York: Oxford University Press.
- Pisani-Ferry, Jean, and Guntram Wolff (2012): "Is LTRO QE in disguise?" *Vox Column*, 3 May 2012.
- Plosser, Charles (2013): "Forward Guidance", Presented to the *Stanford Institute for Economic Policy Research's (SIEPR) Annual Meeting*.
- Plosser, Charles (2015): "Q. and A. With Charles Plosser of the Fed: Raise Rates Sooner Rather Than Later", *The Upshot, New York Times Online*, 30 Jan 2015.
- Poloz, Stephen S. (2015): "Integrating Financial Stability into Monetary Policy." *Remarks by the Governor of the Bank of Canada at the Institute of International Finance*, Lima, 10 Oct 2015.
- Posen, Adam (2010): "The Case for Doing More", *Speech to the Hull and Humber Chamber of Commerce, Industry and Shipping*. KC Stadium, Hull, 28 Sep 2010.
- Posen, Adam (2013): Hearing before the Subcommittee on Monetary Policy and Trade of the Committee on Financial Services, *U.S. House of Representatives*, 13 November 2013.
- Praet, Peter (2011): "The (Changing) Role of Central Banks in Financial Stability Policies", *14th Annual Internal Banking Conference*, Chicago, 10 Nov 2011.
- Praet, Peter (2015): *Interview with Neue Zürcher Zeitung*, 19 Sep 2015.
- Praet, Peter (2016): "The ECB's Monetary Policy: Back to Medium-Term Price Stability of Below, but Close to, 2%", Opinion piece in *Süddeutsche Zeitung*, 13 Jan 2016.
- Puetter, Uwe (2001): "The Informal Eurogroup: A New Working Method and an Institutional Compromise." *Constitutionalism Web-Papers* 2/2001.
- Putnam, Robert D. (1988): "Diplomacy and Domestic Politics: The Logic of Two-Level Games." *International Organization* 42(3): 427-60.
- Qvigstad, Jan F. (2006): "Review of the ECB's Strategy and Alternative Approaches", *Speech at the Conference "The ECB and Its Watchers VIII"* in Frankfurt on 5 May 2006.
- Rehbock, Tobias (2013): "World of Difference between Fed and ECB Monetary Policy", *KFW Economic Research: Focus on Economics* No.32.
- Reichlin, Lucrezia, Adair Turner, and Michael Woodford (2013): "Helicopter Money as a Policy Option", *VOX Column*, 20 May 2013.
- Reichlin, Lucrezia, and Richard Baldwin (2013): "Introduction", in: Lucrezia Reichlin and Richard Baldwin (ed.): *Is Inflation Targeting Dead? Central Banking after the Crisis*. London: Centre for Economic Policy Research, 10-30.
- Rogoff, Kenneth S. (1985): "The Optimal Degree of Commitment to an Intermediate Monetary Target." *Quarterly Journal of Economics* 100(4): 1169-89.

- Rogoff, Kenneth S. (2004): "Globalization and Global Disinflation", in: Federal Reserve Bank of Kansas City (ed.): *Monetary Policy and Uncertainty: Adapting to a Changing Economy*. Jackson Hole: Federal Reserve Bank of Kansas City, 77-112.
- Ruffert, Matthias (2011): "The European debt crisis and European Union law", *Common Market Law Review*, 48(6): 1777-1805.
- Sandbu, Martin (2015a): *Europe's Orphan: The Future of the Euro and the Politics of Debt*. Princeton: Princeton University Press.
- Sandbu, Martin (2015b): "Costly Mistakes: The Difference the Right (or Wrong!) Policies Can Make." *Financial Times*, 29 Oct 2015.
- Sandbu, Martin (2016a): "A German Question: Orientalism Towards Europe's Core." *Financial Times*, 25 July 2016.
- Sandbu, Martin (2016b): "The Return of Keynesianism." *Financial Times*, 24 Oct 2016.
- Sandbu, Martin (2016c): "Populists Stick to Tradition of Central Bank-Bashing." *Financial Times*, 26 Oct 2016.
- Sandholtz, Wayne (1993): "Choosing Union: Monetary Politics and Maastricht." *International Organization* 47(1): 1-39.
- Sargent, Thomas J. (2008): "Rational Expectations", in: David R. Henderson (ed.): *The Concise Encyclopedia of Economics*.
- Scharpf, Fritz W. (2011): "Monetary Union, Fiscal Crisis and the Preemption of Democracy", *MPIfG Discussion Paper No. 11/11*.
- Schmidt, Vivien A. (2008): "Discursive Institutionalism: The Explanatory Power of Ideas and Discourse." *Annual Review of Political Science* 11: 303-26.
- Schulz, Daniel F., and Tobias Tesche (2016): "Maastricht does not come with an instruction sheet: Why ECB Leadership matters", Paper presented at the *Workshop 'Global Leadership in Hard Times'*, European University Institute, 3 March 2016.
- Seabrooke, Leonard, and Duncan Wigan (2016): "Powering Ideas through Expertise: Professionals in Global Tax Battles." *Journal of European Public Policy* 23(3): 357-74.
- Sentence, Andrew (2011): "Ten good reasons to tighten", *Speech given to the Ashridge Alumni Business Briefing at The Institute of Directors*, Pall Mall, London, 24 Feb 2011.
- Shafir, Eldar, Peter Diamond, and Amos Tversky (1997): "Money Illusion." *The Quarterly Journal of Economics* 112(2): 341-74.
- Shin, Hyun Song (2009): "Reflections on Northern Rock: The Bank Run That Heralded the Global Financial Crisis." *Journal of Economic Perspectives* 23(1): 101-19.
- Singleton, John (2010): *Central Banking in the Twentieth Century*. Cambridge: Cambridge University Press.
- Skidelski, Robert (2017): "Economists in Denial", *Project Syndicate*, 23 Feb 2017.
- Smets, Frank (2014): "Financial Stability and Monetary Policy: How Closely Interlinked?" *International Journal of Central Banking* 10(2): 263-300.
- Smith, Adam (1848): *An Inquiry into the Nature and Causes of the Wealth of Nations*. Aberdeen: G. Clark.
- Spiegel, Peter (2014): "How the Euro Was Saved (Pt 3: 'If the Euro Falls, Europe Falls')." *Financial Times*, 15 May 2014.
- Stark, Jürgen (2006): "The Role of Money", in: Andreas Beyer and Lucrezia Reichlin (ed.): *The Role of Money: Money and Monetary Policy in the Twenty-First Century*. Frankfurt: European Central Bank, 16-24.
- Stark, Jürgen (2008): "Monetary, fiscal and financial stability in Europe" *Speech at the 11th Euro Finance Week in Frankfurt*, 18 Nov 2008.
- Stark, Jürgen (2011): "Central banking after the financial crisis", *IMFS Distinguished Lecture*, Frankfurt, 21 Feb 2011.
- Stark, Jürgen (2014): "The ECB's Leap into the Unknown", *Project Syndicate*, 1 Oct 2014.

- Stark, Jürgen (2015): "Sachkenntnis: Mangelhaft", *Frankfurter Allgemeine Zeitung*, 21 Jan 2015.
- Steinmo, Sven H. (2003): "The Evolution of Policy Ideas: Tax Policy in the 20th Century." *The British Journal of Politics & International Relations* 5(2): 206-36.
- Steinmo, Sven H. (2008): "Historical Institutionalism", in: Donatella della Porta and Michael Keating (eds.): *Approaches and Methodologies in the Social Sciences - a Pluralist Perspective*. Cambridge: Cambridge University Press, 118-38.
- Stillman, Richard (2016): "Two Varieties of Administrative Reform: Us vs. Europe", in: Steven Van de Walle and Sandra Groeneveld (eds.): *Theory and Practice of Public Sector Reform*. New York & London: Routledge, 248-64.
- Straubhaar, Thomas (2014): "Das ist das Ende des Kapitalismus." *DIE WELT*, 10 Jun 2014.
- Summers, Lawrence H. (2014): "US Economic Prospects: Secular Stagnation, Hysteresis and the Zero Lower Bound", *Speech delivered to the National Association for Business Economics' Economic Policy Conference*.
- Svensson, Lars E.O. (2010): "Monetary Policy after the Financial Crisis" *Speech at the Second International Journal of Central Banking Fall Conference*, Tokyo, 17 Sep 2010.
- Talani, Leila Simona (2004): "Governing EMU: The European Central Bank between Growth and Stability", in: Francisco Torres, Amy Verdun, Chiara Zilioli and Hubert Zimmermann (ed.): *Governing EMU: Economic, Political, Legal and Historical Perspectives*. Florence: European University Institute, 117-35.
- Taylor, John B. (1993): "Discretion versus Policy Rules in Practice", *Carnegie-Rochester Conference Series on Public Policy* 39: 195-214.
- Taylor, John B. (2016): "Central Bank Models: Lessons from the Past and Ideas for the Future", *Keynote Presentation at the Workshop 'Central Bank Models: The Next Generation'*, Bank of Canada, 17 Nov 2016.
- Telegraph, The (2014): "QE is over: here's how it changed the world", 28 Oct 2014.
- Tietmeyer, Hans (2007): "Panel Discussion: The Art of Monetary Policy", in: European Central Bank (ed.): *'A Journey from Theory to Practice' - an ECB Colloquium in Honour of Otmar Issing (16-17 March 2006)*, 63-69.
- Tinbergen, Jan (1952): *On the Theory of Economic Policy, 2nd Edition*. Amsterdam: North Holland.
- Tobin, James (1972): "Inflation and Unemployment." *The American Economic Review* 62(1/2): 1-18.
- Tobin, James (2008): "Money", in: Steven N. Durlauf and Lawrence E. Blume (eds.): *The New Palgrave Dictionary of Economics*, Second Edition. New York: Palgrave Macmillan.
- Tognato, Carlo (2012): *Central Bank Independence: Cultural Codes and Symbolic Performance*. New York: Palgrave Macmillan.
- Trichet, Jean-Claude (2007a): "Dinner Speech", in: European Central Bank (ed.): *'A Journey from Theory to Practice' - an ECB Colloquium in Honour of Otmar Issing (16-17 March 2006)*, Frankfurt: 73-77.
- Trichet, Jean-Claude (2007b): "The Euro Area and its Monetary Policy", *President's Address at the conference 'The ECB and its Watchers IX'*, Frankfurt am Main, 7 Sep 2007.
- Trichet, Jean-Claude (2008a): "Introductory Statement with Q&A, 8 June 2008", Frankfurt: *European Central Bank*.
- Trichet, Jean-Claude (2008b): "Introductory Statement with Q&A, 3 July 2008", Frankfurt: *European Central Bank*.
- Trichet, Jean-Claude (2008c): "Keynote Address", in: Bartosz Mackowiak, Francesco Paolo Mongelli, Gilles Noblet and Frank Smets (eds.): *The Euro at Ten - Lessons and Challenges*. Frankfurt: European Central Bank, 168-76.

- Trichet, Jean-Claude (2009): "Introductory Statement with Q&A, 15 January 2009", Frankfurt: *European Central Bank*.
- Trichet, Jean-Claude (2010): "Introductory Statement with Q&A, 14 January 2010", Frankfurt: *European Central Bank*.
- Turner, Adair (2013): "Debt, Money and Mephistopheles: How Do We Get out of This Mess?" *Annual address to the Cass Business School 2013*.
- Tversky, Amos, and Daniel Kahneman (1981): "The Framing of Decisions and the Psychology of Choice." *Science* 211(4481): 453-58.
- Ubide, Ángel (2014): "Unconventional Monetary Policies – Recent Experiences, Impact, and Lessons", in: Javier Vallés (ed.): *Monetary Policy after the Great Recession*. Madrid: Funcas, 183-216.
- Van Esch, Femke (2012): "Why Germany Wanted EMU: The Role of Helmut Kohl's Belief System and the Fall of the Berlin Wall", *German Politics* 21:1, 34-52.
- Vanberg, Viktor J. (2004): The Freiburg School: Walter Eucken and Ordoliberalism, *Freiburg Discussion Papers on Constitutional Economics*, No. 04/11.
- Verdun, Amy (1999): "The Role of the Delors Committee in the Creation of EMU: An Epistemic Community?" *Journal of European Public Policy* 6(2): 308-28.
- Verdun, Amy (2000a): "Monetary Integration in Europe: Ideas and Evolution", in: Maria Green Cowles and Michael Smith (ed.): *The State of the European Union: Risks, Reform, Resistance, and Revival*. Oxford: Oxford University Press, 91-109.
- Verdun, Amy (2000b): "How Did EMU Really Happen?" *Journal of European Public Policy* 7(5): 823-29.
- Verdun, Amy (2017): "Political leadership of the European Central Bank", *Journal of European Integration* 39(2): 207-221.
- Volcker, Paul A. (1994): "The Human Factor and the Fed", in: David C. Colander and Dewey Daane (ed.): *The Art of Monetary Policy*. Armonk: M.E. Sharpe, 21-32.
- Volcker, Paul A. (2007): "Panel Discussion: The Art of Monetary Policy", in: ECB European Central Bank (ed.): *'A Journey from Theory to Practice' - an ECB Colloquium in Honour of Otmar Issing (16-17 March 2006)*, 70-72.
- Wang, Liang, and Randall Wright (2016): "Are Prices Sticky and Does It Matter?" *Federal Reserve Bank of Minneapolis Economic Policy Paper* 16-02.
- Warsh, Kevin (2010): "Rejecting the Requiem", *Remarks to the Securities Industry and Financial Markets Association New York*, 8 Nov 2010.
- Weber, Axel A. (2007): "Zur Rolle der Bundesbank in Deutschland und Europa" *Speech at the Stiftung Ordnungspolitik in Freiburg*, 7 May 2007.
- Weber, Axel A. (2007): "Kaufprogramm birgt erhebliche Risiken", Interview with *Börsen-Zeitung*, 11 May 2010.  
[https://www.bundesbank.de/Redaktion/DE/Downloads/Presse/Publicationen/interview\\_mit\\_bundesbankpraesident\\_axel\\_weber.pdf?\\_\\_blob=publicationFile](https://www.bundesbank.de/Redaktion/DE/Downloads/Presse/Publicationen/interview_mit_bundesbankpraesident_axel_weber.pdf?__blob=publicationFile)
- Weidmann, Jens (2014): "Market economy principles in monetary union." *Speech at the Wolfram Engels Prize ceremony in Kronberg*, 28 March 2014.
- Weidmann, Jens (2015): "Heading for Stability and Prosperity – Bringing the Euro Area Back on Track", *Keynote speech given at the City of London Corporation*. London: Deutsche Bundesbank.
- Weiler, Joseph (2009): "Editorial: The 'Lisbon Urteil' and the Fast Food Culture." *The European Journal of International Law* 20(3): 505–09.
- Whelan, Karl (2013): "A Broader Mandate: Why Inflation Targeting Is Inadequate", in: Lucrezia Reichlin and Richard Baldwin (ed.): *Is Inflation Targeting Dead? Central Banking after the Crisis*. London: CEPR, 104-12.
- White, William R. (2006): "Is Price Stability Enough?" *BIS Working Papers* No. 205.

- Widmaier, Wesley W., Mark Blyth, and Leonard Seabrooke (2007): "Exogenous Shocks or Endogenous Constructions? The Meanings of Wars and Crises." *International Studies Quarterly* 51(4): 747-59.
- Williams, John C. (2016): "Monetary Policy in a Low R-Star World." *FRBSF Economic Letter* 2016-23: 1-6.
- Winkler, Adalbert (2014): "Rescues Violating the German Constitution: The Federal Court Decides on a Theory of Finance", *LSE Financial Markets Group Special Paper Series* 231.
- Wolf, Martin (2016): "Germany Is the Eurozone's Biggest Problem", *Financial Times*, 10 May 2016.
- Woodford, Michael (2005): "Central-Bank Communication and Policy Effectiveness", *Symposium "The Greenspan Era: Lessons for the Future"*. Jackson Hole: Federal Reserve Bank of Kansas
- Woodford, Michael (2013): "Inflation Targeting: Fix It, Don't Scrap It", in: Lucrezia Reichlin and Richard Baldwin (ed.): *Is Inflation Targeting Dead? Central Banking after the Crisis*. London: CEPR, 74-89.
- Wren-Lewis, Simon (2013): "Defending Rational Expectations", *Mainly Macro*, 7 Nov 2013.
- Wren-Lewis, Simon (2014a): "The Mythical Phillips Curve", *Mainly Macro*, 14 Oct 2014.
- Wren-Lewis, Simon (2014b): "Ordoliberalism, Neoliberalism and Economics", *Mainly Macro*, 22 Jan 2014.
- Wyplosz, Charles (2012): "The ECB's Trillion Euro Bet", *VOX Column*, 13 Feb 2012.
- Yellen, Janet L. (2014): "Monetary Policy and Financial Stability", *2014 Michel Camdessus Central Banking Lecture*, International Monetary Fund, Washington, D.C., 2 Jul 2014.
- Yellen, Janet L. (2016): "Macroeconomic Research after the Crisis", *Speech delivered at "The Elusive 'Great' Recovery: Causes and Implications for Future Business Cycle Dynamics"* Federal Reserve Bank of Boston, 14 Oct 2016.
- Young, Brigitte (2014): "German Ordoliberalism as Agenda Setter for the Euro Crisis: Myth Trumps Reality." *Journal of Contemporary European Studies* 22(3): 276-87.

### **Shadow Council Minutes**

[accessible via Handesblatt Archive]:

31.01.2008: Summary Minutes

30.01.2009: ECB Shadow Council Urges ECB to Cut Rates and to Spell Out Plan B

27.04.2009: ECB Shadow Council discusses the scope for going below one percent and need for outright quantitative easing

01.05.2009: ECB Shadow Council sees no reason to set a rate floor of 1%

29.05.2009: ECB Shadow Council says rates are not appropriate

29.01.2010: Shadow ECB Council Supports Tough Stance on Greece But Urges ECB Not to Stoke the Fire

07.06.2010: Shadow ECB Council supports decision to buy bonds against critics from within the Governing Council

25.10.2010: Shadow ECB Council: Is it time to move toward the exit or should the ECB rather loosen policy further to prevent the euro from soaring higher?

31.01.2011: Shadow ECB Council Sees ECB Stuck Between a Rock and a Hard Place

04.07.2011: Council recommends cautious tightening of European monetary policy

04.10.2011: Council Urges ECB to Act Quickly and Decisively

02.07.2012: Council sees ECB's options reduced to a largely symbolic rate cut

05.02.2013: Council urges ECB to act more aggressively

29.04.2013: Council urges ECB to cut rates aggressively

04.06.2013: Members vote for another rate cut

## **APPENDIX**

- A1) List of interviews
- A2) Survey questionnaire
- A3) Response rates by institution
- A4) Characteristics of survey respondents
- A5) Detailed descriptive graphs of Belief and Preference items
- A6) Beliefs by groups of institutions

## APPENDIX

A1) List of interviews

A2) Survey questionnaire

A3) Response rates by institution

A4) Characteristics of survey respondents

A5) Detailed descriptive graphs of Belief and Preference items

A6) Beliefs by groups of institutions

### **List of interviews used in thesis:**

Interview (02) with ECB Economist, 18 Aug 2014 in Frankfurt

Interview (06) with ECB Economist, 6 Jan 2015 in Frankfurt

Interview (07) with ECB Economist, 6 Jan 2015 in Frankfurt

Interview (08) with former Bundesbank Manager, 6 Jan 2015 in Frankfurt

Interview (10) with Journalist / ECB Correspondent, 7 Jan 2015 in Frankfurt

Interview (13) with ECB Economist, 9 Jan 2015 in Frankfurt

Interview (14) with Bundesbank Manager, 21 Sep 2015 in Frankfurt

Interview (15) with ECB Economist, 22 Sep 2015 in Frankfurt

Interview (16) with ECB Economist, 22 Sep 2015 in Frankfurt

Interview (17) with Bundesbank Economist, 23 Sep 2015 in Frankfurt

Interview (18) with ECB Manager, 23 Sep 2015 in Frankfurt

Interview (19) with ECB Manager, 24 Sep 2015 in Frankfurt

Interview (20) with ECB Senior Economist, 25 Sep 2015 in Frankfurt

Interview (21) with ECB Manager, 29 Sep 2015 in Frankfurt

Interview (22) with ECB Manager, 29 Sep 2015 in Frankfurt

Interview (23) with ECB Manager, 30 Sep 2015 in Frankfurt

Interview (24) with ECB Manager, 2 Dec 2015 in Frankfurt

Interview (31) with ECB Senior Economist, 18 Jan 2017 in Frankfurt

Interview (32) with Bundesbank Manager, 19 Jan 2017 in Frankfurt

Interview (33) with former ECB Policymaker, 24 Jan 2017 in Frankfurt

Interview with Otmar Issing, 31 Jan 2017 in Frankfurt\*

\*as several statements made by the interviewee unambiguously revealed his identity, he agreed to being identified as having made the statements used here



## **APPENDIX**

A1) List of interviews

**A2) Survey questionnaire**

A3) Response rates by institution

A4) Characteristics of survey respondents

A5) Detailed descriptive graphs of Belief and Preference items

A6) Beliefs by groups of institutions

**Thank you** for your participation in this survey! It will take you about **6 minutes** to complete it.

The survey is part of a dissertation project at the **European University Institute**, supervised by Prof. **Sven Steinmo** and supported by Prof. **Richard Portes**.

As recent developments have challenged the intellectual framework for monetary policy formation, I investigate how central bankers working in such an uncertain and changing environment perceive the economy.

The survey contains three parts:

1. I shall first ask you to convey some information regarding your **personal background** (origin, education, work experience).
2. The second part of the survey then asks for your opinion regarding some general statements about **how the economy works**.
3. Finally, I will ask you about your opinion regarding some recent **reform proposals** and how you relate your work to certain **intellectual frameworks**.

## 1) Personal background: origin, education, and work experience

### 1. What is your gender?

☐ Female ☐ Male

### 2. What is your age?

☐ 29 or younger  
☐ 30-39  
☐ 40-49  
☐ 50-59  
☐ 60 or older

### 3. Which country were you born in?

Please state: \_\_\_\_\_

### 4. In which country did you spent most of your childhood and youth (until age 18)?

Please state: \_\_\_\_\_

### 5. Would you describe yourself as someone who tries to avoid risks (risk-averse) or as someone who is willing to take risks (risk-prone)?

Please indicate on a scale from 0 to 10, where 0 means "risk-averse" and 10 means "risk-prone".

risk-averse  
prone

risk-

0	1	2	3	4	5	6	7	8	9	10
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### 6. Please indicate the highest level of education you have completed:

☐ doctoral degree  
☐ master's degree  
☐ bachelor's degree  
☐ secondary school degree

### 7. At which institution did you complete your highest level of education?

Please state name and place: \_\_\_\_\_

**8. In which academic discipline did you complete your highest level of education?**

- ☐ Economics
- ☐ Business & Accounting
- ☐ Law
- ☐ Mathematics
- ☐ Political and Social Sciences
- ☐ Administrative Sciences
- ☐ Natural Sciences
- ☐ other, please specify: \_\_\_\_\_

**9. To which academic field did you devote the most time during your education (all degrees)?**

- ☐ Economics
- ☐ Business & Accounting
- ☐ Law
- ☐ Mathematics
- ☐ Political & Social Sciences
- ☐ Administrative Sciences
- ☐ Natural Sciences
- ☐ other, please specify: \_\_\_\_\_

**10. How many years have you worked in the following sectors?**

*Please round to the nearest whole number.*

- years Central banks
- years Ministries and other government agencies
- years Financial firms
- years Non-financial firms
- years Universities and other research institutions
- years Other

**11. Please state the central bank of current (or most recent) employment:**

\_\_\_\_\_

**12. How many years have you worked for the central bank of current (or most recent) employment?**

*Please round to the nearest whole number.*

years

**13. In which area do you work?**

- ☐ Executive / Policy committee
- ☐ Economics / Monetary Analysis
- ☐ Financial Stability
- ☐ International
- ☐ Markets
- ☐ Research
- ☐ Other, please specify: \_\_\_\_\_

## 2) Perceptions of the economy

Next, I would like to ask you to consider the following eight statements about economic relationships and indicate your level of agreement with them.

### 14.To what extent do you agree with the following statements?

Please answer on a scale from -3 to 3, where -3 means “disagree completely” and 3 means “agree completely”.

	disagree completely				agree completely			no answer
	-3	-2	-1	0	1	2	3	
Inflation is primarily a monetary phenomenon.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Human beings make mistakes because they perceive monetary values in nominal and not in real terms.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Downward rigidities of prices and wages are relevant for the purposes of monetary policy formation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Monetary policy effects on output or employment growth are only transitory.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Monetary policy cannot reliably target asset prices.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When interest rates are stuck at their lower bound, M1 growth is not inflationary.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Agents do not err systematically in their expectations of future developments.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There can be no price stability without financial stability.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### 3) Reform proposals and intellectual frameworks

*Coming to a close, I would like to ask whether recent events have changed your perceptions and whether you think that they warrant reforms of monetary policy frameworks.*

#### 15. To what extent do you agree with the following statements?

*Please answer on a scale from -3 to 3, where -3 means “disagree completely” and 3 means “agree completely”.*

	disagree completely				agree completely				no answer
	-3	-2	-1	0	1	2	3		
The events since 2007 have changed how I perceive the economy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Given recent experiences with the lower bound, central banks should have inflation targets higher than 2%.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Central bank should have nominal-GDP targets.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Financial stability concerns should be taken into account for monetary policy decisions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Central banks should focus on core inflation instead of broader measures of inflation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

*My final question focuses on intellectual frameworks (sometimes called paradigms):*

#### 16. Would you consider any of the following intellectual frameworks to be of particular relevance for your work?

*More than one category may be chosen.*

*If you choose more than one, please rank them accordingly, starting with the most important.*

- ☐ Monetarism
- ☐ Neoclassical economics
- ☐ Keynesianism
- ☐ Ordoliberalism
- ☐ Public choice / institutional economics
- ☐ Supply side economics

### Thank you very much for your participation!

If you are interested in receiving aggregated results, please enter your email address below:

---

If you would like to provide feedback on the survey and / or add some additional thoughts to your responses, please do so below:

---



---



---

## **APPENDIX**

A1) List of interviews

A2) Survey questionnaire

**A3) Response rates by institution**

A4) Characteristics of survey respondents

A5) Detailed descriptive graphs of Belief and Preference items

A6) Beliefs by groups of institutions

	<b>Contacts</b>	<b>Responses</b>	<b>Rate</b>
Australia: Reserve Bank of Australia	47	8	17,0%
Austria: Österreichische Nationalbank	64	17	26,6%
Belgium: Banque nationale de Belgique	51	7	13,7%
Canada: Bank of Canada / Banque du Canada	178	18	10,1%
Cyprus: Kentriki Trapeza tis Kyprou	13	2	15,4%
Czech Republic: Česká národní banka	65	14	21,5%
Estonia: Eesti Pank	36	9	25,0%
European Central Bank	256	46	18,0%
Finland: Suomen Pankki	44	12	27,3%
France: Banque de France	76	21	27,6%
Germany: Deutsche Bundesbank	149	17	11,4%
Greece: Bank of Greece	35	8	22,9%
Ireland: Central Bank of Ireland	41	7	17,1%
Italy: Banca d'Italia	179	48	26,8%
Kyrgyzstan: National Bank of the Kyrgyz Republic	15	4	26,7%
Latvia: Latvijas Banka	52	9	17,3%
Lithuania: Lietuvos Bankas	20	6	30,0%
Luxemburg: Banque Centrale du Luxembourg	20	4	20,0%
Malta: Bank Ċentrali ta' Malta	12	2	16,7%
Netherlands: De Nederlandsche Bank	60	18	30,0%
New Zealand: Reserve Bank of New Zealand	35	6	17,1%
Poland: Narodowy Bank Polski	63	12	19,0%
Portugal: Banco de Portugal	63	10	15,9%
Slovakia: Národná banka Slovenska	24	3	12,5%
Slovenia: Banka Slovenije	16	3	18,8%
Spain: Banco de España	79	20	25,3%
Sweden: Sveriges Riksbank	45	7	15,6%
Switzerland: Schweizerische Nationalbank	76	11	14,5%
UK: Bank of England	100	12	12,0%
US: Board of Governors of the Federal Reserve System	322	23	7,1%
US: Federal Reserve Bank of Atlanta	31	1	3,2%
US: Federal Reserve Bank of Boston	26	3	11,5%
US: Federal Reserve Bank of Chicago	58	5	8,6%
US: Federal Reserve Bank of Cleveland	37	3	8,1%
US: Federal Reserve Bank of Dallas	43	7	16,3%
US: Federal Reserve Bank of Kansas City	28	2	7,1%
US: Federal Reserve Bank of Minneapolis	17	1	5,9%
US: Federal Reserve Bank of New York	73	5	6,8%
US: Federal Reserve Bank of Philadelphia	25	2	8,0%
US: Federal Reserve Bank of Richmond	20	4	20,0%
US: Federal Reserve Bank of San Francisco	35	1	2,9%
US: Federal Reserve Bank of St. Louis	28	4	14,3%
	<b>2657</b>	<b>422</b>	<b>15,9%</b>

## **APPENDIX**

A1) List of interviews

A2) Survey questionnaire

A3) Response rates by institution

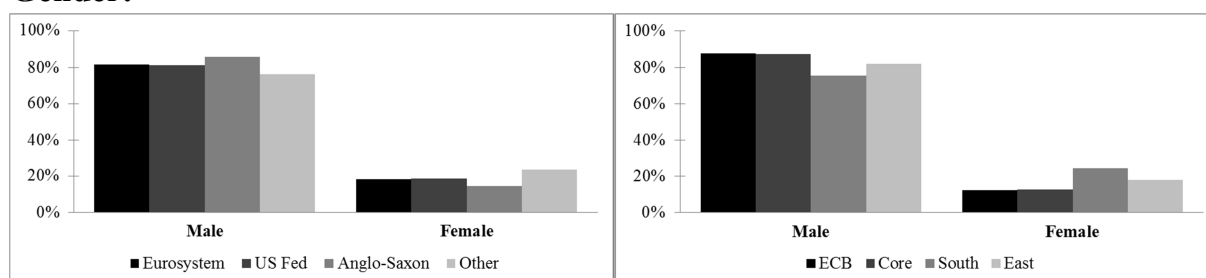
**A4) Characteristics of survey respondents**

A5) Detailed descriptive graphs of Belief and Preference items

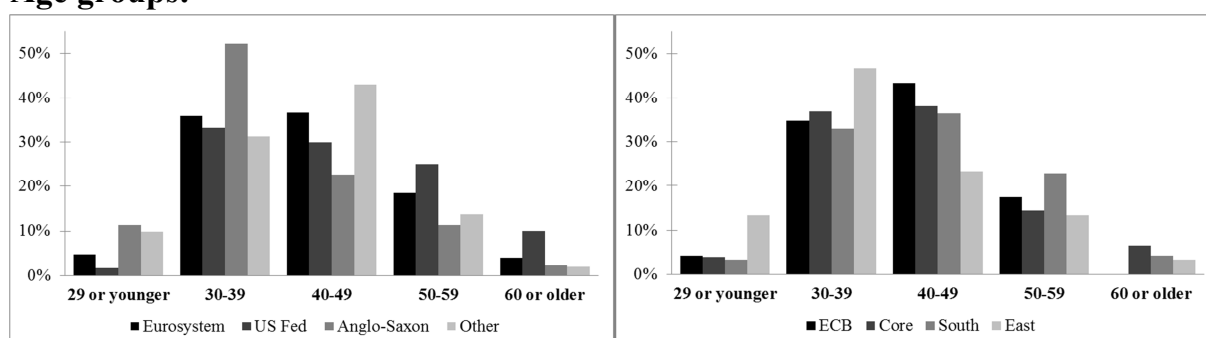
A6) Beliefs by groups of institutions



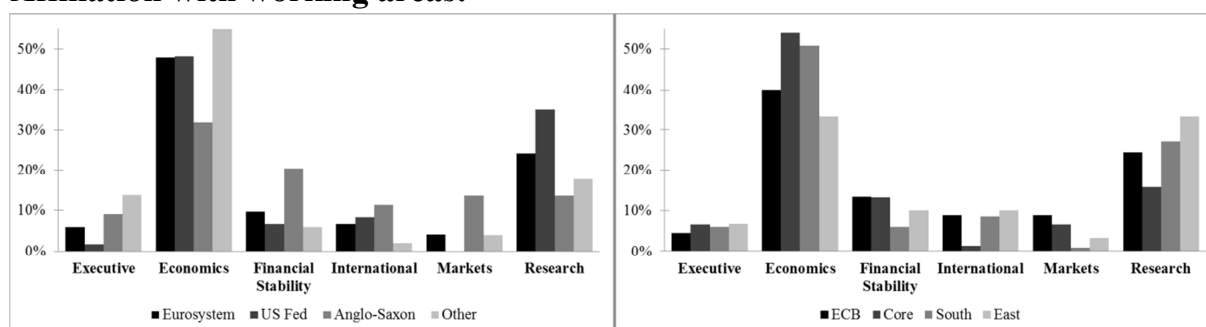
## Gender:



## Age groups:



## Affiliation with working areas:



## Years of work experience in different sectors

	Total	Euro-system	Federal Reserve	Anglo-Saxon <sup>§</sup>	ESCB <sup>+</sup>	Other
<b>Central banks</b>	<b>11,56</b>	12,20	10,88	9,57	11,48	9,17
<b>Ministries and other government agencies</b>	<b>1,23</b>	1,38	1,41	0,44	0,56	1,80
<b>Financial firms</b>	<b>0,86</b>	0,94	0,98	0,38	1,09	0,25
<b>Non-financial firms</b>	<b>0,47</b>	0,53	0,20	0,14	0,64	1,18
<b>Universities and research institutions</b>	<b>4,03</b>	3,98	4,54	1,64	6,23	4,69
<b>Central bank of current employment</b>	<b>10,57</b>	11,10	10,33	8,84	10,09	8,44

§ Australia, Canada, New Zealand, United Kingdom

+ Czech Republic, Poland, Sweden

\* Kyrgyzstan, Switzerland

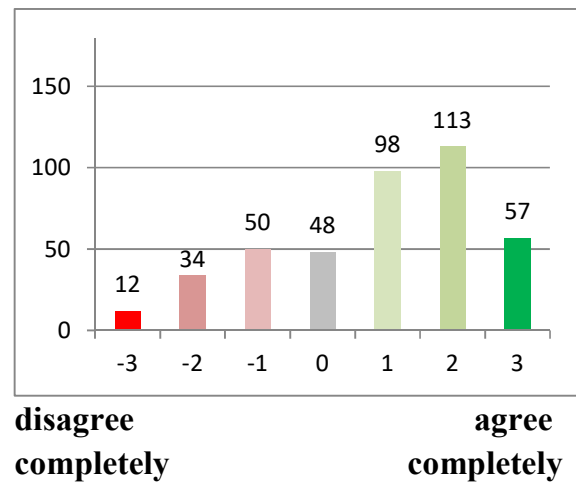
## **APPENDIX**

- A1) List of interviews
- A2) Survey questionnaire
- A3) Response rates by institution
- A4) Characteristics of survey respondents
- A5) Detailed descriptive graphs of Belief and Preference items**
- A6) Beliefs by groups of institutions

## Beliefs about the economy

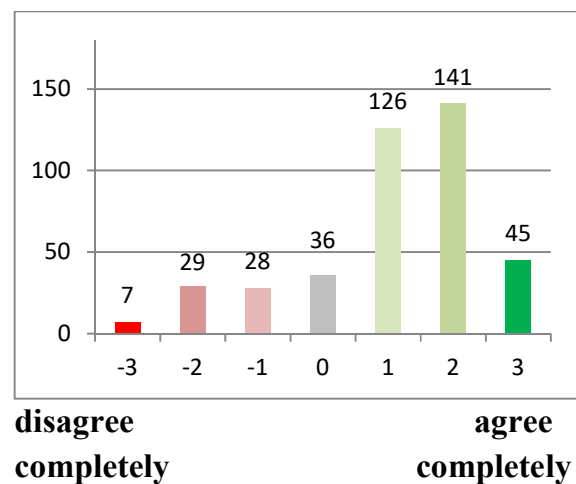
**Inflation is primarily a monetary phenomenon.**

	Mean	SD	N
<b>TOTAL</b>	<b>0,83</b>	<b>1,62</b>	<b>412</b>
<i>EUROSYSTEM</i>	<i>0,76</i>	<i>1,66</i>	<i>261</i>
<i>FED SYSTEM</i>	<i>1,16</i>	<i>1,56</i>	<i>58</i>
<i>ANGLO-SAXON</i>	<i>0,93</i>	<i>1,58</i>	<i>43</i>
<i>OTHER</i>	<i>0,70</i>	<i>1,52</i>	<i>47</i>



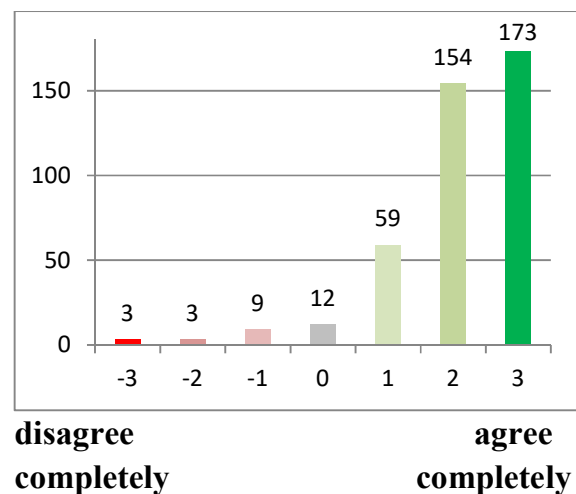
**Human beings make mistakes because they perceive monetary values in nominal and not in real terms.**

	Mean	SD	N
<b>TOTAL</b>	<b>1,06</b>	<b>1,43</b>	<b>412</b>
<i>EUROSYSTEM</i>	<i>1,00</i>	<i>1,44</i>	<i>258</i>
<i>FED SYSTEM</i>	<i>0,98</i>	<i>1,52</i>	<i>60</i>
<i>ANGLO-SAXON</i>	<i>1,18</i>	<i>1,17</i>	<i>44</i>
<i>OTHER</i>	<i>1,30</i>	<i>1,49</i>	<i>47</i>



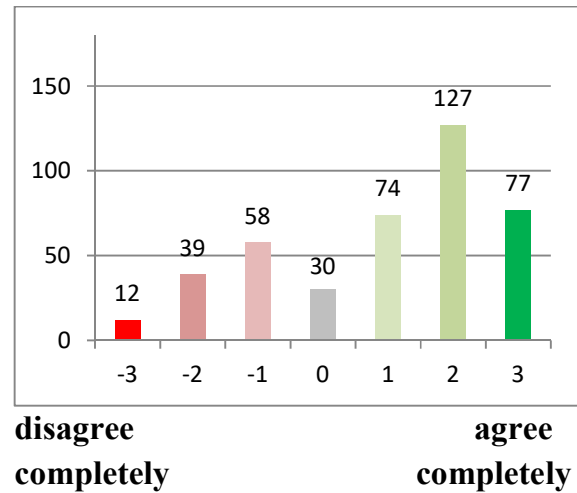
**Downward rigidities of prices and wages are relevant for the purposes of monetary policy formation.**

	Mean	SD	N
<b>TOTAL</b>	<b>2,09</b>	<b>1,08</b>	<b>413</b>
<i>EUROSYSTEM</i>	<i>2,10</i>	<i>0,99</i>	<i>261</i>
<i>FED SYSTEM</i>	<i>2,25</i>	<i>0,85</i>	<i>57</i>
<i>ANGLO-SAXON</i>	<i>2,05</i>	<i>1,26</i>	<i>44</i>
<i>OTHER</i>	<i>1,79</i>	<i>1,52</i>	<i>48</i>



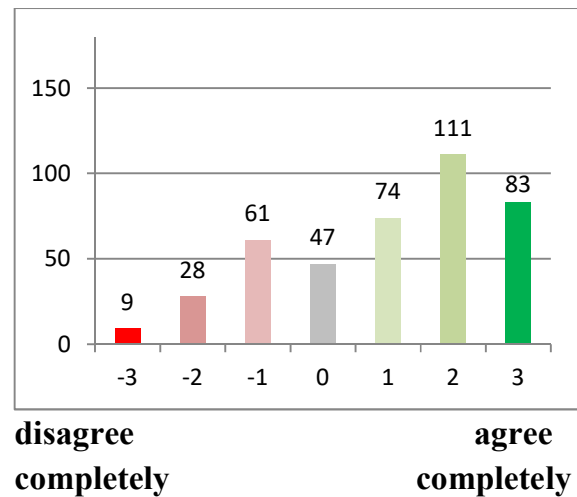
**Monetary policy effects on output or employment growth are only transitory.**

	Mean	SD	N
<b>TOTAL</b>	<b>0,93</b>	<b>1,72</b>	<b>417</b>
<i>EUROSYSTEM</i>	<i>0,99</i>	<i>1,70</i>	<i>264</i>
<i>FED SYSTEM</i>	<i>0,53</i>	<i>1,85</i>	<i>60</i>
<i>ANGLO-SAXON</i>	<i>0,59</i>	<i>1,73</i>	<i>44</i>
<i>OTHER</i>	<i>1,50</i>	<i>1,53</i>	<i>46</i>



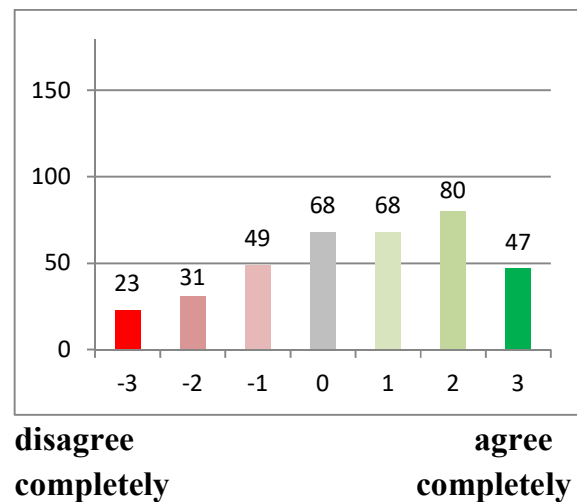
**Monetary policy cannot reliably target asset prices.**

	Mean	SD	N
<b>TOTAL</b>	<b>0,97</b>	<b>1,66</b>	<b>413</b>
<i>EUROSYSTEM</i>	<i>0,93</i>	<i>1,63</i>	<i>260</i>
<i>FED SYSTEM</i>	<i>0,85</i>	<i>1,56</i>	<i>59</i>
<i>ANGLO-SAXON</i>	<i>1,30</i>	<i>1,71</i>	<i>44</i>
<i>OTHER</i>	<i>1,06</i>	<i>1,88</i>	<i>47</i>



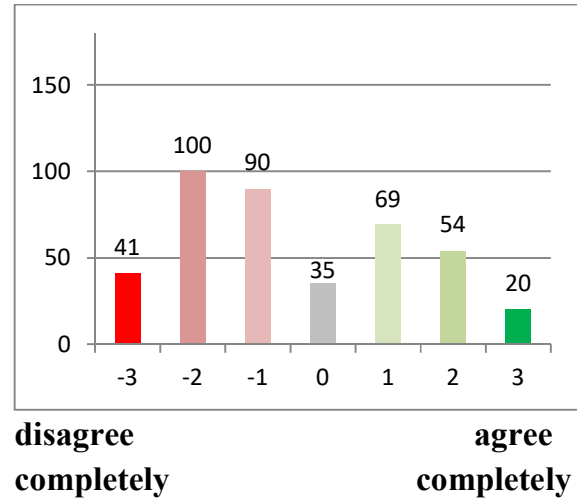
**When interest rates are stuck at their lower bound, M1 growth is not inflationary.**

	Mean	SD	N
<b>TOTAL</b>	<b>0,52</b>	<b>1,73</b>	<b>366</b>
<i>EUROSYSTEM</i>	<i>0,49</i>	<i>1,75</i>	<i>228</i>
<i>FED SYSTEM</i>	<i>1,00</i>	<i>1,44</i>	<i>54</i>
<i>ANGLO-SAXON</i>	<i>0,50</i>	<i>1,77</i>	<i>40</i>
<i>OTHER</i>	<i>0,10</i>	<i>1,88</i>	<i>41</i>



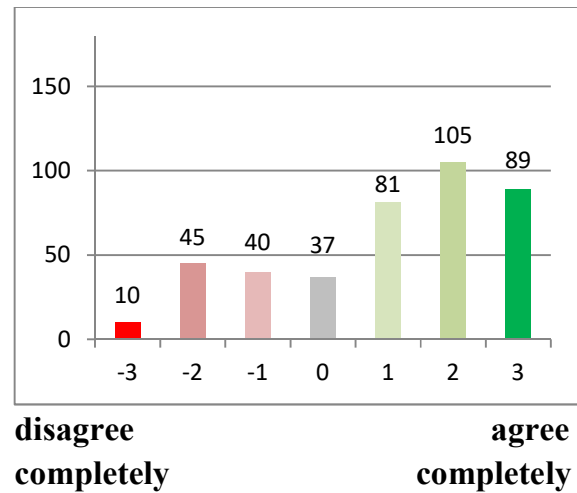
**Agents do not err systematically in their expectations of future developments.**

	Mean	SD	N
<b>TOTAL</b>	<b>-0,43</b>	<b>1,75</b>	<b>409</b>
<i>EUROSYSTEM</i>	-0,35	1,78	259
<i>FED SYSTEM</i>	-0,36	1,79	59
<i>ANGLO-SAXON</i>	-0,84	1,51	44
<i>OTHER</i>	-0,52	1,77	44



**There can be no price stability without financial stability.**

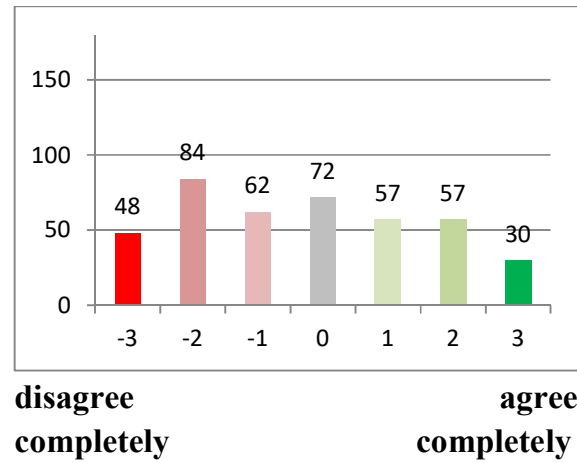
	Mean	SD	N
<b>TOTAL</b>	<b>0,98</b>	<b>1,74</b>	<b>407</b>
<i>EUROSYSTEM</i>	1,12	1,69	256
<i>FED SYSTEM</i>	0,36	1,73	56
<i>ANGLO-SAXON</i>	0,32	1,76	44
<i>OTHER</i>	1,50	1,65	48



## Policy reform proposals

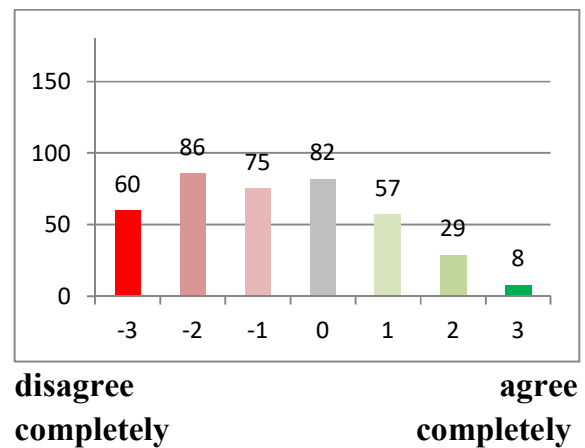
**Given recent experiences with the lower bound, central banks should have inflation targets higher than 2%.**

	Mean	SD	N
<b>TOTAL</b>	<b>-0,28</b>	<b>1,82</b>	<b>410</b>
<i>EUROSYSTEM</i>	-0,38	1,75	259
<i>FED SYSTEM</i>	0,31	1,74	59
<i>ANGLO-SAXON</i>	0,05	1,93	44
<i>OTHER</i>	-0,62	2,00	45



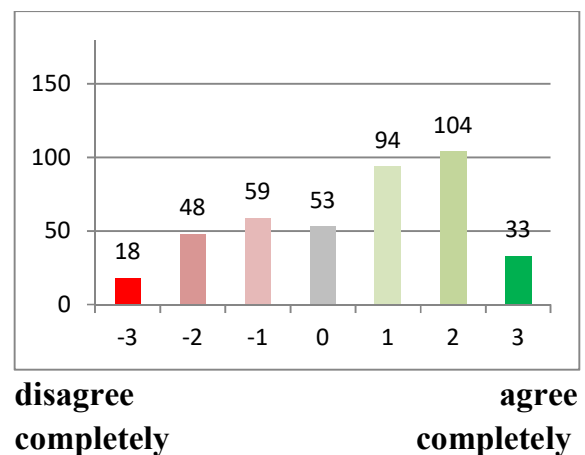
**Central bank should have nominal-GDP targets.**

	Mean	SD	N
<b>TOTAL</b>	<b>-0,73</b>	<b>1,59</b>	<b>397</b>
<i>EUROSYSTEM</i>	-0,65	1,61	249
<i>FED SYSTEM</i>	-0,40	1,45	58
<i>ANGLO-SAXON</i>	-0,90	1,53	42
<i>OTHER</i>	-1,29	1,58	45



**Central banks should focus on core inflation instead of broader measures of inflation.**

	Mean	SD	N
<b>TOTAL</b>	<b>0,47</b>	<b>1,66</b>	<b>409</b>
<i>EUROSYSTEM</i>	0,47	1,63	258
<i>FED SYSTEM</i>	0,78	1,57	59
<i>ANGLO-SAXON</i>	0,59	1,83	44
<i>OTHER</i>	-0,20	1,69	45



## **APPENDIX**

- A1) List of interviews
- A2) Survey questionnaire
- A3) Response rates by institution
- A4) Characteristics of survey respondents
- A5) Detailed descriptive graphs of Belief and Preference items
- A6) Beliefs by groups of institutions

	TOTAL			EUROSYSTEM			FED SYSTEM			ANGLO-SAXON			OTHER		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Gender	1.19	0.39	396	1.18	0.39	251	1.19	0.39	59	1.14	0.35	42	1.25	0.44	44
Age	2.79	0.96	421	2.80	0.92	269	3.08	1.03	60	2.41	0.92	44	2.65	0.91	48
Risk-Taking	4.32	1.96	421	4.39	1.97	269	4.47	1.96	60	4.77	1.88	44	3.29	1.61	48
Highest Degree	2.70	0.51	421	2.69	0.50	269	2.90	0.40	60	2.48	0.63	44	2.73	0.45	48
Years at Institution	10.52	7.40	421	11.13	7.63	269	10.33	8.79	60	8.84	5.84	44	9.02	4.77	48
Working Area	3.34	1.86	420	3.37	1.88	268	3.62	1.86	60	3.30	1.59	44	2.90	1.90	48
<b>Belief items</b>															
Inflation a monetary phenomenon	0.83	1.62	409	0.76	1.66	261	1.16	1.56	58	0.93	1.58	43	0.70	1.52	47
Money Illusion	1.06	1.43	409	1.00	1.44	258	0.98	1.52	60	1.18	1.17	44	1.30	1.49	47
Downward rigidities	2.09	1.08	410	2.10	0.99	261	2.25	0.85	57	2.05	1.26	44	1.79	1.52	48
Neutrality of Money	0.93	1.72	414	0.99	1.70	264	0.53	1.85	60	0.59	1.73	44	1.50	1.53	46
Cannot Target Asset Prices	0.97	1.66	410	0.93	1.63	260	0.85	1.56	59	1.30	1.71	44	1.06	1.88	47
Rational Expectations	-0.43	1.75	406	-0.35	1.78	259	-0.36	1.79	59	-0.84	1.51	44	-0.52	1.77	44
Money Growth at ZLB Inflationary	0.52	1.73	363	0.49	1.75	228	1.00	1.44	54	0.50	1.77	40	0.10	1.88	41
Without financial stability no price stability	0.98	1.74	404	1.12	1.69	256	0.36	1.73	56	0.32	1.76	44	1.50	1.65	48
<b>Reform preference items</b>															
Higher Inflation Target	-0.28	1.82	407	-0.38	1.75	259	0.31	1.74	59	0.05	1.93	44	-0.62	2.00	45
Nominal GDP Target	-0.73	1.59	394	-0.65	1.61	249	-0.40	1.45	58	-0.90	1.53	42	-1.29	1.58	45
Focus on Financial Stability	1.32	1.44	415	1.38	1.44	265	1.17	1.49	58	0.86	1.46	44	1.50	1.38	48
Focus on Core Inflation	0.47	1.66	406	0.47	1.63	258	0.78	1.57	59	0.59	1.83	44	-0.20	1.69	45



	EUROSYSTEM			ECB			CORE			SOUTH			EAST		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Gender	1.18	0.39	251	1.12	0.33	41	1.13	0.33	72	1.24	0.43	111	1.19	0.40	27
Age	2.80	0.92	269	2.74	0.80	46	2.83	0.96	76	2.92	0.93	118	2.38	0.90	29
Risk-Taking	4.39	1.97	269	4.43	1.82	46	4.20	1.93	76	4.47	2.00	118	4.52	2.26	29
Highest Degree	2.69	0.50	269	2.70	0.47	46	2.79	0.41	76	2.70	0.51	118	2.38	0.62	29
Years at Institution	11.13	7.63	269	10.02	5.51	46	11.13	7.99	76	12.27	8.19	118	8.21	6.42	29
Working Area	3.37	1.88	268	3.51	1.74	45	3.11	1.87	76	3.34	1.88	118	3.97	2.10	29
<b>Belief items</b>															
Inflation a monetary phenomenon	0.76	1.66	261	0.86	1.62	42	0.47	1.72	75	0.94	1.64	116	0.64	1.59	28
Money Illusion	1.00	1.44	258	1.36	1.33	45	1.23	1.29	70	0.78	1.52	116	0.74	1.48	27
Downward rigidities	2.10	0.99	261	2.30	0.67	44	2.11	0.95	75	2.01	1.11	114	2.18	1.02	28
Neutrality of Money	0.99	1.70	264	1.16	1.74	43	1.11	1.57	74	0.89	1.75	118	0.83	1.75	29
Cannot Target Asset Prices	0.93	1.63	260	0.91	1.58	44	0.88	1.75	73	0.99	1.66	114	0.86	1.25	29
Rational Expectations	-0.35	1.78	259	-0.11	1.66	44	-0.60	1.80	73	-0.22	1.87	116	-0.62	1.44	26
Money Growth at ZLB Inflationary	0.49	1.75	228	0.59	1.63	39	0.42	1.92	60	0.51	1.72	104	0.40	1.76	25
Without financial stability no price stability	1.12	1.69	256	1.07	1.65	46	1.07	1.77	70	1.14	1.69	112	1.25	1.67	28
<b>Reform preference items</b>															
Higher Inflation Target	-0.38	1.75	259	-0.45	1.60	42	-0.84	1.83	74	-0.11	1.73	114	-0.14	1.68	29
Nominal GDP Target	-0.65	1.61	249	-0.62	1.41	39	-0.96	1.61	72	-0.39	1.62	110	-0.96	1.69	28
Focus on Financial Stability	1.38	1.44	265	1.11	1.43	44	1.48	1.36	75	1.48	1.43	117	1.14	1.64	29
Focus on Core Inflation	0.47	1.63	258	0.40	1.58	43	0.32	1.80	74	0.45	1.54	112	1.07	1.53	29

